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# COURSE DESCRIPTIONS

## AAA: ADVANCED ACADEMIC ACHIEVEMENT

### AAA 101 COLLEGE 101: STUDENT EXPERIENCE

Introduces students to college culture and prepares them for the challenges they will face in higher education. Through a series of interactive seminars, students discover learning in a multicultural environment and use college and community resources to attain education and career goals. One credit.

### AAA 109 ADVANCED ACADEMIC ACHIEVEMENT

Examines theories and practices associated with successful learning to enhance college success. Areas of study include education and career planning, effective communication personal management, critical and creative thinking, development of community and awareness of diversity, leadership, and techniques for successful academic performance. Recommended for new and returning students. This class does not substitute for REA 090. This course does not meet minimum nor elective requirements for the A.A. or A.S. degrees. Prerequisite(s): Placement test. Three credits.

## ACC: ACCOUNTING

### ACC 115 PAYROLL ACCOUNTING

Studies federal and state employment laws and their effects on personnel and payroll records. The course is non-technical and is intended to give students a practical working knowledge of the current payroll laws and actual experience in applying regulations. Students are exposed to computerized payroll procedures. Prerequisite(s): ACC 101 OR ACC 121. Three credits.

### ACC 121 ACCOUNTING PRINCIPLES I

Introduces the study of accounting principles for understanding of the theory and logic that underlie procedures and practices. Major topics include the accounting cycle for service and merchandising companies, special journals and subsidiary ledgers, internal control principles and practices, notes and interest, inventory systems and costing, plant assets and intangible asset accounting, and depreciation methods and practices. Four credits.

### ACC 122 ACCOUNTING PRINCIPLES II

Continues the study of accounting principles as they apply to partnerships and corporations. Major topics include stocks and bonds, investments, cash flow statements, financial analysis, budgeting, and cost and managerial accounting. Prerequisite(s): ACC 121. Four credits.

### ACC 123 ACCOUNTING PRINCIPLES I RECITATION

The course exposes students to a broader accounting experience in the foundational studies of accounting. Students will be introduced to additional problems, case studies, and applications of accounting in real-world business situations, using individual and team problem solving. Prerequisite(s): AC 121. One credit.

### ACC 125 COMPUTERIZED ACCOUNTING

Introduces the capabilities of computer applications in accounting. Includes solving accounting problems of a financial nature and hardware and software controls. Corequisite(s): ACC 122. Three credits.

### ACC 132 TAX HELP COLORADO

This course prepares the students for preparation of federal and state income tax returns for individuals. Emphasis is placed on form preparation with the used of tax software. Two credits.

### ACC 133 TAX HELP COLORADO SITE LAB

This course allows students to prepare actual federal and state income tax returns for individuals in a real time environment. Prerequisite: ACC 132. One credit.

### ACC 135 SPREADSHEET APPLICATIONS FOR ACCOUNTING

This course introduces spreadsheets as an accounting tool. Using an accounting perspective, the student applies fundamental spreadsheet concepts. The spreadsheet is used as a problem solving and decision making tool. Prerequisite(s): CIS 155. Corequisite(s): MAN 225 and ACC 226. Three credits.

### ACC 140 ACCOUNTING SOFTWARE: QUICKBOOKS

Students are introduced to specialized accounting software. Students will enter date, create invoices, write checks, use accounts payable and accounts receivable, record and pay sales and payroll taxes, do job costing, and generate reports. Prerequisite(s): ACC 121. One credit.

### ACC 175 SPECIAL TOPICS

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite: ACC 121 or permission of instructor. Zero to six credits.

### ACC 211 INTERMEDIATE ACCOUNTING I

Focuses on comprehensive analysis of generally accepted accounting principles (GAAP), accounting theory, concepts and financial reporting principles for public corporations. It is the first of a two-course sequence in financial accounting and is designed primarily for accounting and finance majors. Focuses on the preparation and analysis of business information relevant and useful to external users of financial reports. Explores the theories, principles and practices surveyed in Accounting Principles and critically examines 'real-world' financial analysis and reporting issues. Prerequisite(s): ACC 122 with a "C" or better. Four credits.

### ACC 212 INTERMEDIATE ACCOUNTING II

Focuses on the theoretical and practical aspects of accounting for long-term liabilities, stockholders' equity, investments, pensions and leases. Includes income tax allocation, financial statement analysis, cash flow statements and accounting methods changes. Prerequisite(s): ACC 211 with a grade of "C" or better or permission of instructor. Four credits.

### ACC 226 COST ACCOUNTING

Studies cost accumulation methods and reports. Focuses on the concepts and procedures of job order, process, standard, and direct cost systems, budgeting, planning, and control of costs. Prerequisite(s): ACC 122. Three credits.

### ACC 269 ACCOUNTING SYSTEMS

Provides students the opportunity to study the flow of accounting information within an organization, with emphasis on integration of accounting subsystems and internal control procedures in both manual and computerized systems. This class also includes a review of library research, professional ethics, and resume-writing and interview techniques. Prerequisite(s): ACC 125. Three credits.

## **ACC 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

## **CIS 155 PC SPREADSHEET CONCEPTS: EXCEL**

Listed in the CIS course section.

## **MAN 225 MANAGERIAL FINANCE**

Listed in the MAN course section.

# **ACT: AUTO COLLISION TECHNOLOGY**

## **ACT 101 INTRODUCTION TO AUTOMOTIVE COLLISION TECHNOLOGY**

Designed as an orientation to the automotive collision repair industry. Students receive an overview of job possibilities as well as learn various types of automobile construction. Names, uses and maintenance procedures for a variety of tools and equipment are covered. Focuses on general collision repair and refinishing shop safety procedures with an emphasis on personal and environmental safety issues. Students also learn the proper handling and disposal of hazardous materials. Prerequisite(s): None. Four credits.

## **ACT 111 METAL WELDING AND CUTTING I**

Covers sheet metal oxygen-acetylene welding and MIG welding techniques including safety, materials, equipment and setups. Personal and vehicle protective measures prior to welding procedures are presented. Prerequisite(s): ACT 101 or permission of Instructor. Three credits.

## **ACT 121 NON-STRUCTURAL REPAIR PREPARATION**

Covers the basic characteristics of preparation for automotive repair. Students familiarize themselves with damage analysis, extent of damage and the sequence of repair. Focuses on removal of vehicle components and protection of panels along with storage and labeling of parts. Safety procedures and equipment use are included. Prerequisite(s): ACT 101 or permission of Instructor. Three credits.

## **ACT 122 PANEL REPAIR AND REPLACEMENTS**

Covers straightening techniques including tension pulls/stress relief, metal finishing, metal shrinking and use of fillers. Emphasizes the identification, handling and replacement of parts such as adjustment and alignment of bolt-on parts, fixed parts and accessories. Training covers the use of adhesives, sound deadeners and welding methods performed during repairs. Prerequisite(s): ACT 101 or permission of Instructor. Three credits.

## **ACT 123 METAL FINISHING AND BODY FILLING**

Covers metal finishing, metal shrinking and the use of cosmetic fillers. Emphasis is placed on the use of proper tools required to perform these tasks, including use, selection and safety procedures for tools and equipment selected. Prerequisite(s): ACT 101 or permission of Instructor. Three credits.

## **ACT 131 STRUCTURAL DAMAGE DIAGNOSIS**

Focuses on methods of frame measurement using dimension charts and service manuals. Includes the use of self-centering gauges and mechanical and electronic measuring. Appropriate terms and definitions of vehicle structures and vehicle diagnosis is covered including identification and analysis of damage. Includes the techniques for basic hook ups and safety procedures used in making corrective pulls. Prerequisite(s): ACT 101 or permission of instructor. Three credits.

## **ACT 132 STRUCTURAL DAMAGE REPAIR**

Continues the study and application of frame measurement and repair. The student applies methods found in dimension charts and service manuals for vehicle diagnosis and straightening. Training includes the replacement of a structural panel with the identification of damaged suspension components replaced according to manufacturer's recommendations. Prerequisite(s): ACT 101 or permission of instructor. Three credits.

## **ACT 141 REFINISHING SAFETY**

Covers correct use of safety procedures used in refinishing. Proper fit and use of various types of protective equipment is emphasized. The identification of tools and equipment, with use and maintenance is covered including national guidelines for proper disposal and handling of hazardous materials. One credit.

## **ACT 142 SURFACE PREPARATION I**

Covers surface preparation for refinishing including cleaning, sanding, feather edging, chemical treatment of bare materials and priming. The application of primers, including rationale and use is covered. In addition the student learns skills for proper removal and storage of exterior trim and protection of adjacent panels. Prerequisite(s): ACT 141 or permission of instructor. Two credits.

## **ACT 143 SPRAY EQUIPMENT OPERATION**

Covers the inspection, cleaning and determination of the condition of spray guns and related equipment. Students learn skills for adjusting spray guns by setting-up and testing spray gun operations. Prerequisite(s): ACT 142 or permission of instructor. Two credits.

## **ACT 144 REFINISHING I**

Provides the knowledge needed for application and use of automotive paint systems. Course includes locating color codes, mixing formulas, matching and selections of materials. Proper paint gun use and adjustments is taught for the product being applied. In addition, the student practices correct masking and detailing techniques. Prerequisite(s): ACT 142 and ACT 143. Two credits.

## **ACT 151 PLASTICS & ADHESIVES I**

Designed to teach the state-of-the-art repair for both rigid and flexible plastic components and choosing adhesives using the latest manufacturer's repair techniques. Prerequisite(s): ACT 101 or permission of instructor. One credit.

## **ACT 170 AUTOMOTIVE COLLISION TECHNOLOGY LAB EXPERIENCES I**

Designed to prepare the student to perform basic tasks for a specialized area in a controlled instructional lab. Prerequisite(s): None. One to nine credits.

## **ACT 171 AUTOMOTIVE COLLISION TECHNOLOGY LAB EXPERIENCES II**

Course is a continuation of Lab experience. Designed to prepare the individual to perform basic tasks for a specialized area in a controlled instructional lab. Prerequisite(s): None. One to nine credits.

## **ACT 172 AUTOMOTIVE COLLISION TECHNOLOGY LAB EXPERIENCES III**

Course is a continuation of Lab experience. Designed to prepare the individual to perform basic tasks for a specialized area in a controlled instructional lab. Prerequisite(s): None. One to nine credits.

### **ACT 175 SPECIAL TOPICS**

Assists students who are interested in individual topics within the normal curriculum. The student identifies and selects objectives that he/she needs for industry upgrades or special training to enter the workforce. The student may explore current topics, issues or activities related to one or more aspects of the Automotive Collision industry. Prerequisite(s): None. One to nine credits.

### **ACT 176 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite(s): None. One-half to six credits.

### **ACT 177 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite(s): None. One-half to six credits.

### **ACT 180 AUTOMOTIVE COLLISION REPAIR INTERNSHIP LEVEL I**

Designed to meet the needs of the student in selected specialized area in a work-based environment. Individualized instruction at the job site is coordinated based on student's interest and instructor approval. Prerequisite(s): permission of instructor. One to nine credits.

### **ACT 181 AUTOMOTIVE COLLISION REPAIR LEVEL II INTERNSHIP**

Course is a continuation of Level I Internship. Student uses the knowledge and skills acquired throughout the ACT program in a job site placement. Prerequisite(s): permission of instructor. One to nine credits.

### **ACT 205 ESTIMATING AND SHOP MANAGEMENT**

Initiates written estimates on damaged vehicles. Students learn shop management including work orders, ordering supplies, operating costs, time cards, shop liabilities, employee's safety and insurance management issues. Prerequisite(s): ACT 101 or permission of instructor. Three credits.

### **ACT 211 METAL WELDING AND CUTTING II**

Covers mig welding procedures of seam weld, stitch welds and destructive testing. Resistance spot welding, which includes two-sided spot weld, plasma cutting, safety, materials, and equipment and operating procedures, with emphasis on shop safety are also presented. Prerequisite(s): ACT 111. Two credits.

### **ACT 221 MOVEABLE GLASS AND HARDWARE**

Covers door glass, vent windows and glass mechanisms (both electric and mechanical) with emphasis on removal and replacement. In addition, interior trim panels, seats and headliners are removed and replaced. Student learns proper care and treatment of vehicle seat protectors plus the proper use of tools required to perform these tasks. Prerequisite(s): ACT 101 or permission of instructor. Two credits.

### **ACT 231 ADVANCED STRUCTURAL DAMAGE DIAGNOSIS & REPAIR**

Covers major automotive body repair in vehicles with major damage on conventional structures and unibody structures. Student learns the operation of equipment and techniques used to straighten and align damaged frames. Identification and analysis of frames, hot and cold stress relieving, servicing and sectioning of structural frames is also included. Liability issues and the importance of making these corrections according to the manufacturer's recommendations and industry standards are emphasized. Prerequisite(s): ACT 131, ACT 132, and ACT 133 or permission of instructor. Three credits.

### **ACT 232 FIXED GLASS REPAIR**

Covers the removal and replacement of fixed glass using manufacturer's specifications, proper tools and recommended materials. Application of skills are demonstrated and utilized for the removal and replacement of modular glass using manufacturer's specifications and procedures. Prerequisite(s): ACT 101 or permission of instructor. Two credits.

### **ACT 241 PAINT DEFECTS**

Covers paint defects. Emphasizes the causes of paint defects with methods to cure problems during and after refinishing procedures. Students learn to identify the proper surface preparations to apply prior to refinishing. Training includes using paint equipment and determining paint film thickness with proper temperatures for refinishing. Three credits.

### **ACT 242 SURFACE PREPARATION II**

Emphasizes surface preparation for refinishing including cleaning, sanding, feather edging, chemical treatment of bare metals and priming. The application of primers, including why and where using them is covered. Prerequisite(s): ACT 142 and ACT 143. Two credits.

### **ACT 243 REFINISHING II**

In this advanced course students learn the necessary skills used to tint and blend panels working with the latest finishes and paints. Special coatings and procedures are covered in this course. Prerequisite(s): ACT 242. Two credits.

### **ACT 244 FINAL DETAIL**

Focuses on the detailing procedures in paint refinishing of vehicles. Methods and techniques are specialized to enhance painting skills. Transfers and tapes methods with decals etc. are demonstrated. Prerequisite(s): ACT 141 or permission of instructor. Two credits.

### **ACT 251 PLASTICS & ADHESIVES II**

Emphasizes advanced plastic and adhesives. The current state-of-the-art repairs for both rigid and flexible plastic components using the latest manufacturer's repair techniques are presented. Sheet Molded Compound procedures and the use of proper adhesives is covered. Prerequisite(s): ACT 151. One credit.

### **ACT 265 STREET ROD I**

Introduces the student to the Street Rod industry to include safety practices, tools, and equipment, automobile construction, the repair estimate, welding and cutting, characteristics and properties of sheet metal, damage analysis, sequence of repair, straightening techniques, metal finishing, and the use and application of body fillers. ACT 101, ACT 110, ACT 111, ACT 121, ACT 122, ACT 123, ACT 142, ACT 143, ACT 144, ACT 211, ACT 241, and ACT 243 or permission of instructor. Six credits.

### **ACT 266 RESTRAINT SYSTEMS**

Students learn to inspect, remove and replace active restraint systems, passive restraint systems and supplemental restraint systems. Procedures are demonstrated for disarming and diagnosing restraint systems using electronic equipment and trouble codes. Instruction for passive restraint replacement is also covered in this course. Prerequisite(s): None. One credit.

### **ACT 267 STREET ROD II**

Continues Street Rod I to include safety practices, tools and equipment, automobile construction, the repair estimate, welding and cutting, characteristics and properties of sheet metal, damage analysis, sequence of repair, straightening techniques, metal finishing, and the use and application of body fillers. Prerequisite(s): ACT 265. Six credits.

### **ACT 268 STREET ROD III**

Continues Street Rod II to include engine mounting, transmission mounting, frame assembly procedures, body modification including frenching, chop tops, shaving and sectioning procedures, sheet metal fabrication, body reconstruction, and metal fabrication. Prerequisite(s): ACT 267. Six credits.

### **ACT 269 STREET ROD IV**

Continues Street Rod III to include electrical systems, wiring and installation, body assembly and refinishing, interior vehicle modifications, brake system design and mounting, final vehicle assembly, and custom painting to include graphics, flames, special effects, and color sanding and polishing. Prerequisite(s): ACT 268. Six credits.

### **ACT 275 SPECIAL TOPICS**

Assists students who are interested in individual topics within the normal curriculum. The student identifies and selects objectives that he/she needs for industry upgrades or special training to enter the workforce. The student may explore current topics, issues or activities related to one or more aspects of the Automotive Collision industry. Prerequisite(s): None. One to nine credits.

### **ACT 285 INDEPENDENT STUDY**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite(s): None. One-half to six credits.

### **UPH: UPHOLSTERY**

See UPH prefix for related Automotive Upholstery courses.

## **AEC: ARCHITECTURAL**

### **AEC 205 APPLIED STATICS AND STRENGTHS OF MATERIALS**

Provides an algebra-based investigation of concepts in statics and strengths of materials. Topics include a study of fundamental mechanical properties of materials, single planar forces, properties of sections, and two-dimensional free body, shear, and bending moment diagrams. Three credits.

### **AEC 221 BUILDING ELECTRICAL/MECHANICAL SYSTEMS**

Acquaints the student with electrical and mechanical equipment and systems in buildings. Lectures cover the basic principles of electrical distribution, artificial lighting, fire protection, plumbing systems and heating, ventilating and air conditioning (HVAC) systems. Prerequisite(s): None. Three credits.

### **AEC 231 ESTIMATING II: COST ANALYSIS**

Focuses on estimating techniques used to establish and verify costs of materials, equipment, and labor and the time requirements related to building construction projects. Emphasis is placed on preparation of an estimate of construction costs of a commercial building. Prerequisite(s): MAT 108 or permission of instructor. Three credits.

### **AEC 232 CONSTRUCTION PROJECT MANAGEMENT**

Investigates building construction management principles including a study of systematic scheduling techniques, project tracking and control methods, and budget and cost analysis control. Prerequisite(s): None. Three credits.

### **AEC 233 CONSTRUCTION SAFETY & LOSS PREVENTION**

Explores construction site hazards and unsafe practices, related health and safety regulations and standards, and loss and theft prevention. Training in basic first aid and CPR is included. Prerequisite(s): None. Two credits.

### **AEC 234 CONSTRUCTION CONTRACT & LABOR LAW**

Focuses on construction labor, contract and licensing laws and regulations. Lectures and student projects investigate building construction project contracts and labor and employment regulations as related to building construction. Prerequisite(s): None. Two credits.

### **AEC 280 INTERNSHIP**

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. Instructor permission required. One to six credits.

## **ANT: ANTHROPOLOGY**

### **ANT 101 CULTURAL ANTHROPOLOGY**

Studies human cultural patterns and learned behavior. Includes linguistics, social and political organization, religion, culture and personality, culture change, and applied anthropology. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **ANT 107 INTRODUCTION TO ARCHAEOLOGY**

Introduces the science of recovering the human prehistoric and historic past through excavation, analysis, and interpretation of material remains. Includes a survey of the archaeology of different areas of the Old and New Worlds. Also includes the works of selected archaeologists and discussions of major archaeological theories. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **ANT 111 PHYSICAL ANTHROPOLOGY**

Studies human biology and its effects on behavior. Includes principles of genetics and evolution, vertebrates and primates, human origins, human variation, and ecology. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **ANT 121 CULTURES OF THE SOUTHWEST**

(Formerly: ANT 109) Includes the major prehistoric cultures (Paleoindian, Desert Culture, Anasazi, Hohokam, Mogollon) and ethnographic views of the historic cultures (Pueblos, Navajo, Apache, Pima, Papago, Spanish-American, and Anglo-American). The purpose of the study is to trace the stages through which these cultures have passed in order to evaluate environmental influences on human activities and to perceive human influences on the environment. Three credits.

### **ANT 126 COLORADO ARCHAEOLOGY**

Identifies and evaluates distinct prehistoric cultures present in the region now known as Colorado since about 10,000 years ago, using specific archaeological techniques and terminologies. Three credits.

### **ANT 137 SOUTHWEST US ARCHAEOLOGY**

Identifies the complex regional population centers and cultural traditions of prehistoric peoples of the 4-Corners (Colorado, Arizona, New Mexico, Utah) and analyses evidence of cultural interaction with peoples of Meso-America and with the ecology of the region. Three credits.

### **ANT 201 INTRO TO FORENSIC ANTHROPOLOGY**

Studies the basic principles of forensic anthropology, an applied field within the discipline of physical anthropology. Includes the study of the human skeleton, practical application of physical anthropology and archaeology, and judicial procedure, as they relate to the identification of human remains within a medico-legal context. Three credits.

### **ANT 208 SOUTHWEST FIELD EXPLORATION**

Introduces the social, religious, economic, and cultural development of selected American Indian societies and Hispanic settlements of the American Southwest. Major ruins, archaeological sites, museums, reservations, and/or pre-statehood communities are explored by field trip. Two credits.

### **ANT 215 INDIANS OF NORTH AMERICA**

(Formerly: ANT 117) Studies the Indians of North America from the origins of native peoples in the New World, through the development of geographic culture areas, to European contact and subsequent contemporary Native American issues. This course is a state guaranteed transfer course GT SS3. Three credits.

### **ANT 225 ANTHROPOLOGY OF RELIGION**

Explores the culturally universal phenomenon of religion. Cross-cultural varieties of beliefs in the supernatural and the religious rituals people employ to interpret and control their worlds are examined. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **ANT 275 SPECIAL TOPICS IN ANTHROPOLOGY**

(Formerly: ANT 285) Provides opportunity for off-campus field experience or study of a special topic in anthropology. Field study may occur at archaeological sites, museums, host educational institutions, within ethnographic situations, or other anthropologically appropriate places. Study of a special topic may include that derived from physical anthropology, cultural anthropology, archaeology, or other anthropological discipline. One to five credits.

### **ANT 285 INDEPENDENT STUDY**

(Formerly: ANT 295) Allows the student to independently study certain aspects of anthropology. It provides opportunity to investigate an area of interest that developed in introductory courses. Prerequisite(s): ANT 101 OR ANT 111. One to six credits.

## **ARA: ARABIC**

NOTE: World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

### **ARA 101 CONVERSATIONAL ARABIC I**

Introduces beginning students to conversational Arabic and focuses on understanding and speaking Arabic. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

### **ARA 111 ARABIC LANGUAGE I**

Begins a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the Arabic language. Five credits.

### **ARA 112 ARABIC LANGUAGE II**

Continues Arabic Language I in the development of functional proficiency in listening, speaking, reading and writing the Arabic language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Five credits.

## **ARC: ARCHITECTURAL TECHNOLOGY**

### **ARC 107 BLUEPRINT READING (RESIDENTIAL/COMMERCIAL)**

Covers the interpretation and reading of blueprints and related documents as used in the building trades industry and architect's office. Prerequisite(s): None. Three credits.

### **ARC 236 CODES/ZONING/SPECIFICATIONS**

Reviews the restrictions, standards, and requirements which in the interest of public safety and welfare have been established by law to govern the construction of buildings and their materials. Specifications are developed to describe building materials to be furnished and how they are to be installed. Three credits.

### **ARC 226 CONSTRUCTION SCHEDULING**

Discusses various methods of project scheduling. Emphasis will be placed on critical path method techniques and strategies. Prerequisite(s): None. Three credits.

### **ARC 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **ARC 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Instructor permission required. One to six credits.

### **ARC 289 CAPSTONE**

A demonstrated culmination of learning within a given program of study. Instructor permission required. One to six credits.

## **ART: ART**

### **ART 110 ART APPRECIATION**

Introduces the cultural significance of the visual arts, including media, processes, techniques, traditions, and terminology. This course is a state guaranteed transfer course GT-AH1. Prerequisite(s): None. Three credits.

### **ART 111 ART HISTORY I**

Provides the knowledge base to understand the visual arts, especially as related to Western culture. Surveys the visual arts from the Ancient through the Medieval periods. This course is a state guaranteed transfer course GT-AH1. Prerequisite(s): None. Three credits.

### **ART 112 ART HISTORY II**

Provides the knowledge base to understand the visual arts, especially as related to Western culture. Surveys the visual arts from the Renaissance through the Modern periods. This course is a state guaranteed transfer course GT-AH1. Prerequisite(s): None. Three credits.

### **ART 113 HISTORY OF PHOTOGRAPHY**

Surveys the history of photography from its beginnings to the present. Emphasizes individual photographers who have made significant contributions to the field. Includes technical, artistic, commercial and social development of photography as a form of visual communication. Three credits.

### **ART 121 DRAWING I**

Investigates the various approaches and media that students need to develop drawing skills and visual perception. Prerequisite(s): None. Three credits.

### **ART 122 DRAWING II**

Explores expressive drawing techniques with an emphasis on formal composition, color media and content or thematic development. Prerequisite(s): None. Three credits.

### **ART 123 WATERCOLOR I**

Provides an introduction to the basic techniques and unique aspects of materials involved in the use of either transparent or opaque water media or both. Color theory is included. Prerequisite(s): None. Three credits.

### **ART 124 WATERCOLOR II**

Continues the study of watercolor techniques, emphasizing original compositions and experimentation with materials. Color theory is included. Prerequisite(s): None. Three credits.

### **ART 131 2-D DESIGN**

Examines the basic elements of design, visual perception, and artistic form and composition as they relate to two-dimensional media. Prerequisite(s): None. Three credits.

### **ART 132 3-D DESIGN**

Focuses on learning to apply the elements and principles of design to three dimensional problems. Prerequisite(s): None. Three credits.

### **ART 141 JEWELRY AND METAL WORK I**

Introduces the construction of jewelry designs in metals and small casting techniques. Prerequisite(s): None. Three credits.

### **ART 142 JEWELRY AND METAL WORK II**

Emphasizes conceptual design development, using casting and specialized techniques. Prerequisite(s): None. Three credits.

### **ART 143 DIGITAL PHOTOGRAPHY I**

Introduces the basic concepts of digital imaging as applied to photography. Using applicable technology and hands on experience, modern developments are presented leading to the present applications of digital imaging which combine traditional photographic ideas with electronic media. Enables the student to learn how to operate image manipulation software using a variety of scanning equipment, software tools and output devices by executing new assignments and applying these technologies to their photographic process. Three credits.

### **ART 154 SCULPTURE I**

Introduces the fundamentals of sculpture such as modeling, casting, carving, and the processes of assemblage. Three credits.

### **ART 155 SCULPTURE II**

Develops an understanding and focus on manipulation of three dimensional form, with greater concentration on individual creativity and style. Prerequisite(s): None. Three credits.

### **ART 156 FIGURE DRAWING I**

Introduces the basic techniques of drawing the human figure. Student must be at least 16 years of age to enroll in this class. Prerequisite(s): None. Three credits.

### **ART 157 FIGURE PAINTING I**

Focuses on painting the human figure, and includes a brief survey of figure painting, and instruction in the fundamental methods of composition and expressions. Student must be at least 16 years of age to enroll in this class. Three credits.

### **ART 161 CERAMICS I**

Introduces traditional and contemporary ceramic forms and processes including handbuilding and throwing on the potter's wheel. Prerequisite(s): None. Three credits.

### **ART 162 CERAMICS II**

A continuation of ART 161, this course emphasizes skill, technique and form. Prerequisite(s): None. Three credits.

### **ART 163 HANDBUILT CLAY I**

Provides instruction in several methods of hand-building and the study of functional and decorative design elements. Three credits.

### **ART 164 HANDBUILT CLAY II**

Provides continued instruction in various methods of hand-building. Prerequisite(s): None. Three credits.

### **ART 175 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **ART 185 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Prerequisite(s): Permission of department chair is required. One to six credits.

### **ART 205 MUSEUM STUDIES**

Provides a complete overview of the museum field. Covers the museum as a business, its history and role in society, and planning and implementation of a museum exhibition. Prerequisite(s): None. Three credits.

### **ART 207 ART HISTORY -- 1900 TO PRESENT**

Provides students with the knowledge base to understand the visual arts as related to Modern and Contemporary visual art. Surveys world art of the twentieth century, including Modernism to Post-Modernism. Student must be at least 16 years of age to enroll in this class. This course is a state guaranteed transfer course GT-AH1. Prerequisite(s): None. Three credits.

### **ART 209 STUDIO ART**

Designed for advanced students interested in further exploring an art discipline to develop a more comprehensive portfolio. Prerequisite(s): None. Three credits.

### **ART 210 LANDSCAPE PAINTING**

Focuses on specific landscape concerns in the painting media of your choice. Prerequisite(s): None. Three credits.

### **ART 211 PAINTING I**

Explores basic techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting to depict form and space on a two-dimensional surface. Three credits.

### **ART 212 PAINTING II**

This course further explores techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting, with emphasis on composition and content development. Three credits.

### **ART 213 PAINTING III**

Provides continued exploration of techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting, with emphasis on composition and content development. Prerequisite(s): None. Three credits.

### **ART 214 PAINTING IV**

Explores advanced techniques, materials, and concepts used in opaque painting processes, with emphasis on the development of themes and a cohesive body of work. Prerequisite(s): None. Three credits.

### **ART 221 DRAWING III**

Offers a continued study of expressive drawing techniques and development of individual style, with an emphasis on composition and technique variation. Prerequisite(s): None. Three credits.

### **ART 222 DRAWING IV**

Explores advanced drawing problems with an emphasis on conceptual development and portfolio and/or exhibition quality presentation. Prerequisite(s): None. Three credits.

### **ART 223 WATERCOLOR III**

Concentrates on the advanced study of subject development, form, color, and theme in watercolor. Three credits.

### **ART 224 WATERCOLOR IV**

Concentrates on the advanced study of techniques, individual style or expression, and consistency of compositional problem solving in watercolor. Prerequisite(s): None. Three credits.

### **ART 225 PRINTMAKING I**

Introduces the basic techniques and skills of printmaking as a fine art media. Instruction includes an understanding of visual concepts as they relate to prints. May include introduction to relief, intaglio, lithography and screen printing techniques. Three credits.

### **ART 226 PRINTMAKING II**

Introduces more advanced techniques and skills of printmaking as a fine art media. Instruction includes an understanding of visual concepts as they relate to prints. May include introduction to relief, intaglio, lithography and screen printing techniques. Three credits.

### **ART 238 PHOTOGRAPHY III**

Explores photography technique with emphasis on history, theory, and assimilation of ideas into the students' creative work. Includes the development of a comprehensive portfolio. Prerequisite(s): ART 138 or ART 139. Three credits.

### **ART 241 JEWELRY AND METAL WORK III**

Focuses upon advanced work and emphasizes experimentation with materials and techniques, individual designs, and superior craftsmanship. Prerequisite(s): None. Three credits.

### **ART 242 JEWELRY AND METAL WORK IV**

Provides continued study of the properties of metal and stone in creating decorative work. Students employ advanced design and techniques to explore original, personal expression. A variety of materials and approaches are used in discovering new and independently creative finished pieces. Three credits.

### **ART 243 DIGITAL PHOTOGRAPHY II**

Expands upon the beginning digital photography class. Focuses on digital photography in terms of design and communication factors including color, visual design, lighting, graphics, and aesthetics. Prerequisite(s): ART 143 or permission of instructor. Three credits.

### **ART 250 ART OF ANIMATION**

Introduces character development and transitions from one media to another. Students learn the foundational skills necessary to create the illusion of life for sketched characters. Focuses on the traditional medium of paper and pencil to turn ideas into visual treatment for creating animatics by use of a light box and computer. Character development and storyboarding by script are emphasized. Prerequisite: ART 121 or permission of instructor. Three credits.

### **ART 252 LANDSCAPE PHOTOGRAPHY**

Focuses on traditional and contemporary approaches to landscape photography. Examines technical and aesthetic aspects of landscape photography through group discussions, a field study, lectures, and print and slide critiques. Prerequisite(s): ART 138. Two credits.

### **ART 253 STUDIO PHOTOGRAPHY**

Explores the creative uses of studio lighting from the perspective of fine art photography with an emphasis on portraiture, three dimensional object photography, and two dimensional collage photography. Prerequisite(s): ART 138. Three credits.

### **ART 256 ADVANCED FIGURE DRAWING**

Provides continuing study of the various methods of drawing the human figure, with emphasis on the description of form and individual style. Student must be at least 16 years of age to enroll in this class. Prerequisite(s): None. Three credits.

### **ART 261 CERAMICS III**

Encourages students to develop an individual style of wheel thrown and hand-built ceramic forms with continuing involvement in surface treatment. Prerequisite(s): None. Three credits.

### **ART 262 CERAMICS IV**

Continues advanced work with emphasis on various clay bodies, unique glazes and engobes, and combining different textures and shapes, and development of personal forms. Three credits.

### **ART 263 HAND-BUILT CLAY III**

Covers advanced problems with importance placed on large scale pieces that promote creativity with techniques and combinations of different textures. Prerequisite(s): None. Three credits.

### **ART 268 SCULPTURE III**

Focuses on advanced individual sculpture projects, emphasizing experimentation with materials, accomplished technique and conceptual significance. Prerequisite(s): None. Three credits.

### **ART 269 CERAMIC SCULPTURE**

Explores a variety of processes to create three-dimensional images in clay. Focuses on hand-built sculptures, without using a potter's wheel and relying on very basic tools. Encourages creative experimentation and engaging in the process. Three credits.

### **ART 285 INDEPENDENT STUDY**

Provides structured and guided, individualized research that is organized and tailored around the interests and needs of the individual student. Prerequisite(s): Permission of department chair is required. One to six credits.

# **ASE: AUTO SERVICE TECHNOLOGY**

## **ASE 101 AUTO SHOP ORIENTATION**

Provides students with safety instruction in the shop and on the Automobile. Emphasis is placed on the proper use and care of test equipment, precision measuring and machining equipment, gaskets, adhesives, tubing, wiring, jacks, presses, and cleaning equipment and techniques. Prerequisite(s): None. Two credits.

## **ASE 102 INTRODUCTION TO THE AUTOMOTIVE SHOP**

Prepares the incoming automotive student to work in the shop safely and gain familiarity with the shop and common equipment. Prerequisite(s): ASE 101 or permission of Department. Two credits.

## **ASE 110 BRAKES I**

Covers basic operation of automotive braking systems. Includes operation, diagnosis, and basic repair of disc brakes, drum brakes, and basic hydraulic systems. Prerequisite(s): ASE 101, ASE 102 or permission of Department. Three credits.

## **ASE 120 BASIC AUTOMOTIVE ELECTRICITY**

Introduces automotive electricity and includes basic electrical theory, circuit designs, and wiring methods. Focuses on multi-meter usage and wiring diagrams. Prerequisite(s): ASE 101, ASE 102 or permission of Department. Two credits.

## **ASE 123 AUTOMOTIVE BATTERY, STARTING, AND CHARGING SYSTEMS**

Covers the operation, testing, and servicing of automotive battery, starting, and charging systems. Includes voltage and amperage testing of starter and generator, load testing and maintenance of a battery, and starter and generator overhaul. Prerequisite(s): ASE 101, ASE 102, ASE 120 or permission of Department. Two credits.

## **ASE 130 GENERAL ENGINE DIAGNOSIS**

Focuses on lecture and related laboratory experiences in the diagnosis and necessary corrective actions of automotive engine performance factors. Prerequisite(s): ASE 101, ASE 102 or permission of Department. Two credits.

## **ASE 132 IGNITION SYSTEM DIAGNOSIS AND REPAIR**

Focuses on lecture and related laboratory experiences in the diagnosis, service, adjustments and repair of various automotive ignition systems. Prerequisite(s): ASE 101, ASE 102, ASE 130 or permission of Department. Two credits.

## **ASE 134 AUTOMOTIVE EMISSIONS**

Focuses on lecture and laboratory experiences in the diagnosis and repair of automotive emission control systems. Prerequisite(s): ASE 101, ASE 102, ASE 130 or permission of Department. Two credits.

## **ASE 140 SUSPENSION AND STEERING I**

Focuses on lecture and related experiences in the diagnosis and service of suspensions and steering systems and their components. Prerequisite(s): ASE 101, ASE 102 or permission of Department. Three credits.

## **ASE 150 AUTOMOTIVE U-JOINT & AXLE SHAFT SERVICE**

Studies the operating principles and repair procedures relating to axle-shaft and universal joints. Prerequisite(s): ASE 101, ASE 102 or permission of Department. Two credits.

## **ASE 151 AUTOMOTIVE MANUAL TRANSMISSION/ TRANSAXLES & CLUTCHES**

A comprehensive course combining lecture and related laboratory experiences in the diagnosis and repair of automotive manual transmissions, transaxles and clutches and related components. Prerequisite(s): ASE 101, ASE 102 or permission of Department. Two credits.

## **ASE 152 DIFFERENTIALS & 4WD/AWD SERVICE**

A comprehensive course combining lecture and related laboratory experiences in the diagnosis and repair of automotive differentials, four wheel and all wheel drive units. Prerequisite(s): ASE 101, ASE 102, ASE 150 or permission of Department. Two credits.

## **ASE 160 AUTOMOTIVE ENGINE REMOVAL & INSTALLATION**

Focuses on lecture and laboratory experiences in the removal and installation procedures of the automotive engine from and into front wheel and rear wheel drive vehicles. Prerequisite(s): ASE 102, ASE 130. One credit.

## **ASE 161 ENGINE, DISASSEMBLY DIAGNOSIS & ASSEMBLY**

Focuses on lecture and laboratory experiences in the disassembly, diagnosis and reassembly of the automotive engine. Topics include the diagnostic and repair procedures for the engine block and head assemblies. Prerequisite(s): ASE 102, ASE 130. Five credits.

## **ASE 170 LABORATORY EXPERIENCE I**

Continues to build upon the principles that are expected to be understood by students. Prerequisite(s): ASE 101, ASE 102 or permission of Department. One to six credits.

## **ASE 210 BRAKES II**

Covers the operation and theory of the modern automotive braking systems. Includes operation, diagnosis, service, and repair of the anti-lock braking systems, power assist units and machine operations of today's automobile. Prerequisite(s): ASE 101, ASE 102, ASE 110 or permission of Department. Three credits.

## **ASE 220 SPECIALIZED ELECTRONICS TRAINING**

Provides a systematic approach to automotive electrical systems. Builds from the basic electrical principles and concepts through semiconductors and microprocessors. Features on-bench exercises. Students practice diagnostic procedures that have applications to present and future automotive electronics and electrical systems. Prerequisite(s): ASE 101, ASE 102, ASE 120 or permission of Department. Two credits.

## **ASE 221 AUTOMOTIVE BODY ELECTRICAL**

Provides a comprehensive study of the theory, operation, diagnosis, and repair of vehicle accessories. Prerequisite(s): ASE 101, ASE 102, ASE 120 or permission of Department. Four credits.

## **ASE 231 AUTOMOTIVE COMPUTERS**

Focuses on lecture and laboratory experiences in the inspection and testing of typical computerized engine control systems. Prerequisite(s): ASE 101, ASE 102, ASE 130 or permission of Department. Two credits.

## **ASE 233 FUEL INJECTION AND EXHAUST SYSTEMS**

Focuses on lecture and related laboratory experiences in the diagnosis and repair of electronic fuel injection systems and modern exhaust systems. Prerequisite(s): ASE 101, ASE 102, ASE 130 or permission of Department. Four credits.

### **ASE 235 DRIVEABILITY DIAGNOSIS**

Emphasizes lecture and related laboratory experience in diagnostic techniques and the use of diagnostic scan tools, oscilloscopes, lab scopes, multi-meters and gas analyzers. Students diagnose live vehicle driveability problems. Prerequisite(s): ASE 101, ASE 102, ASE 130 or permission of Department. One credit.

### **ASE 240 SUSPENSION AND STEERING II**

Emphasizes lecture and related experiences in the diagnosis and service of electronic suspensions and steering systems and their components. Prerequisite(s): ASE 101, ASE 102, ASE 140 or permission of Department. Three credits.

### **ASE 250 AUTOMATIC TRANSMISSION/TRANSAXLE SERVICE**

Focuses on practical methods of maintaining, servicing, and performing minor adjustments on an automatic transmission and transaxle. Prerequisite(s): ASE 101, ASE 102 or permission of Department. One credit.

### **ASE 251 AUTOMATIC TRANSMISSION/TRANSAXLE DIAGNOSIS AND ASSEMBLIES**

Covers diagnosis, principles of hydraulics, principles of electronic components, power flow, theory of operation, removal of transmission/transaxle, tear down, replacement of components, measurement and subsequent adjustment of components and replacement of transmission/transaxle. Prerequisite(s): ASE 101, ASE 102, ASE 250 or permission of Department. Five credits.

### **ASE 265 AUTOMOTIVE HEATING AND AIR CONDITIONING**

Emphasizes lecture and related laboratory experiences in the diagnosis and service of automotive heating and air conditioning systems and their components. Prerequisite(s): ASE 101, ASE 102 or permission of Department. Five credits.

### **ASE 282 INTERNSHIP: GENERAL (SUMMER)**

Emphasizes practical on-the-job, work-related experience that corresponds to the area of study. In this semester, the student takes all related sponsor requirements in (STS) Service Training Standards (General Motors) or ("F.A.S.T") Fundamental Automotive Systems Training (Chrysler) or others as required by the program track. Required as part of AYES program. Prerequisite(s): ASE 101, ASE 102 or permission of Department. One to five credits.

## **ASL: AMERICAN SIGN LANGUAGE**

NOTE: World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

### **ASL 101 BASIC SIGN LANGUAGE I**

Provides students with the basic knowledge of communicating with the deaf community. Students will develop basic vocabulary and conversational skills and will be introduced to aspects of the deaf culture and community. Three credits.

### **ASL 102 BASIC SIGN LANGUAGE II**

Continues the sequence for students who want to learn basic conversational patterns to communicate with the Deaf community. The material covers basic vocabulary and conversational skills, and aspects of the Deaf culture and community. Three credits.

### **ASL 121 AMERICAN SIGN LANGUAGE I**

(Formerly: ASL 111) Exposes the student to American Sign Language. Readiness activities are conducted focusing on visual/receptive skills and basic communication. Utilizes the direct experience method. Students must complete this course with a `B` or higher or pass the ASL proficiency test with a score of at least 80% or better prior to registering for ASL 122 if planning to enroll in the Interpreter Preparation Program. Prerequisite(s): ASL 101 or permission of instructor. Five credits.

### **ASL 122 AMERICAN SIGN LANGUAGE II**

(Formerly: ASL 112) Develops a basic syntactic knowledge of American Sign Language (ASL), basic vocabulary and basic conversational skills. Incorporates vital aspects of deaf culture and community. The direct experience method is used to enhance the learning process. Students must complete this course with a `B` or higher or pass the ASL 121 proficiency test at 80% or better prior to acceptance into the Interpreting and Transliterating Preparation program. Prerequisite(s): ASL 121 or permission of instructor. Five credits.

### **ASL 275 SPECIAL TOPICS**

(Formerly: ASL 282) Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

## **AST: ASTRONOMY**

NOTE: Science courses are listed under the following prefixes: AST (Astronomy), BIO (Biology), CHE (Chemistry), GEY (Geology), MET (Meteorology), PHY (Physics) and SCI (Science). All course prerequisites for science courses must be completed with a grade of "C" or better.

### **AST 101 ASTRONOMY I**

Focuses on the history of astronomy, the tools of the astronomer and the contents of the solar system including the planets, moons, asteroids, comets, and meteoroids. Incorporates laboratory experience. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): MAT 099 (MAT 108 does not serve as a prerequisite). Four credits.

### **AST 102 ASTRONOMY II**

Emphasizes the structure and life cycle of the stars, the sun, galaxies, and the universe as a whole, including cosmology and relativity. Incorporates laboratory experience. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): MAT 099 (MAT 108 does not serve as a prerequisite). Four credits.

### **AST 175 SPECIAL TOPICS**

(Formerly: AST 185) Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite(s): Permission of instructor. One to six credits.

### **AST 185 INDEPENDENT STUDY**

(Formerly: AST 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Prerequisite(s): Permission of instructor. One to six credits.

## **AVT: AVIATION**

For up-to-date information on degree requirements, please refer to the Aviation page on the Aims website, [www.aims.edu](http://www.aims.edu).

### **AVT 101 PRIVATE PILOT GROUND SCHOOL**

Prepares student for the Private Pilot Airplane, Single-Engine Land FAA Knowledge Exam. Prerequisite(s): None. Four credits.

### **AVT 102 PRIVATE PILOT FLIGHT**

Focuses on flight training in preparation for the Private Pilot Airplane, Single-Engine Land FAA Practical Test, and completing requirements for the Private Pilot Certificate. Corequisite(s): AVT 101, or equivalent instruction and approval of department chair. Four credits.

### **AVT 103 INTRODUCTION TO AIR TRAFFIC CONTROL**

Focuses on the history of the Air Traffic Control System, including its structure, function, and operation. Also includes radar operations and the future of the National Airspace System. Prerequisite(s): None. Three credits.

### **AVT 104 PRIVATE PILOT FLIGHT, HELICOPTER**

Focuses on flight training in preparation for the Private Pilot Helicopter FAA Practical Test, and completing requirements for the Private Pilot Certificate. Corequisite(s): AVT 101, or equivalent instruction and approval of department chair. Four credits.

### **AVT 105 AVIATION METEOROLOGY**

Focuses on recognition, interpretation and evaluation of atmospheric weather as it relates to and affects aviation. Prerequisite(s): None. Four credits.

### **AVT 106 PINCH-HITTER PILOT**

Prepares the non-pilot passenger to participate in airplane flight, and to take over and successfully land the airplane should the pilot become incapacitated. Prerequisite(s): None. One credit.

### **AVT 108 GLOBAL POSITIONING SYSTEM FOR PILOTS**

Focuses on the Global Positioning System and its uses in aviation. Prerequisite(s): None. One credit.

### **AVT 111 INSTRUMENT PILOT GROUND SCHOOL**

Focuses on preparation for the FAA Instrument Rating Knowledge Exam. Prerequisite(s): Private Pilot Certificate or consent of department chair. Four credits.

### **AVT 112 INSTRUMENT PILOT FLIGHT**

Focuses on flight training in preparation for the Instrument Rating, Single-Engine Airplane FAA Practical Test, and completing requirements for the Instrument Rating. Prerequisite(s): Private Pilot Certificate. Four credits.

### **AVT 113 INSTRUMENT FLIGHT TRAINER**

Develops the skills necessary to operate in IFR conditions, using a single-engine flight trainer. Prerequisite(s): Private Pilot Certificate or consent of department chair. Four credits.

### **AVT 114 INSTRUMENT PILOT FLIGHT INSTRUCTION**

Teaches the necessary knowledge needed to pass the FAA Rotorcraft Helicopter Instrument written and practical tests. Prerequisite(s): FAA Private Pilot Certificate, Helicopter. Four credits.

### **AVT 115 ATC PHRASEOLOGY I**

Focuses on the proper use of phraseology in the Air Traffic Control System. Prerequisite(s): None. One credit.

### **AVT 145 SIMULATOR LAB I**

Reviews attitude instrument flight for students who desire instruction in addition to their normal instrument training, or for rated pilots desiring to upgrade or refresh their skills utilizing the Flight Training Device. Prerequisite(s): Private Pilot Certificate, Airplane Single- or Multi-Engine Land. One credit.

### **AVT 146 SIMULATOR LAB II**

Continues training in the Flight Training Device for those having completed AVT 145 (Simulator Lab I). Prerequisite(s): AVT 145. One credit.

### **AVT 201 COMMERCIAL PILOT GROUND SCHOOL**

Prepares the student for the Commercial Pilot Airplane, Single-Engine Land FAA Knowledge Exam. Prerequisite(s): Private Pilot Certificate with Instrument Rating, or consent of department chair. Two credits.

### **AVT 202 COMMERCIAL FLIGHT I**

This course is the first of a two-part sequence of flight training in preparation for the Commercial Pilot Certificate, Airplane, Single-Engine Land FAA Practical Test. Consists of the cross country aeronautical experience required for the Commercial Certificate. Prerequisite(s): Private Pilot Certificate with Instrument Rating, or consent of department chair. Three credits.

### **AVT 203 COMMERCIAL FLIGHT II**

Continuation of flight training in preparation for the Commercial Pilot, Airplane Single-Engine Land FAA Practical Test, completing requirements for the Commercial Pilot Certificate. Prerequisite(s): Commercial Flight I. Four credits.

### **AVT 204 COMMERCIAL FLIGHT I, HELICOPTER**

Focuses on the first part of a two-part sequence of flight training in preparation for the Commercial Pilot Helicopter FAA Practical Test. Consists of training and review of those maneuvers required for Private Pilot Helicopter certification with emphasis placed on student performance of these maneuvers to commercial pilot proficiency standards, as well as the introduction of additional maneuvers required for the Commercial Pilot Helicopter Certificate. Prerequisite(s): FAA Private Pilot Certificate. Two credits.

### **AVT 205 MOUNTAIN FLYING GROUND SCHOOL**

Acquaints the student with the unique aspects of flying in mountainous terrain and the additional knowledge and proficiency necessary for safe and efficient operation in mountainous and high altitude terrain. Prerequisite(s): AVT 101 or successful completion of Private Pilot Ground School. One credit.

### **AVT 206 CREW RESOURCE MANAGEMENT**

Focuses on classroom instruction coupled with Line-Oriented Flight Training (LOFT) in a Flight Training Device. Covers the knowledge, skills, and attitudes necessary to enhance safety and operate effectively as a member of an airplane crew. Prerequisite(s): Instrument Rating or consent of department chair. One credit.

### **AVT 207 MULTI-ENGINE GROUND SCHOOL**

Prepares the student for the FAA Practical Test for Private or Commercial Pilot, Airplane Multi-Engine Land. Prerequisite(s): Private or Commercial Pilot Certificate for Airplane Single-Engine Land or consent of department chair. One credit.

### **AVT 208 MULTI-ENGINE FLIGHT**

Focuses on flight training in preparation for the Airplane, Multi-Engine Rating and completing requirements for this rating. Prerequisite(s): Private or Commercial Airplane, Single-Engine Land Pilot Certificate. One credit.

### **AVT 209 MULTI-ENGINE FLIGHT TRAINER**

Develops the skills necessary to operate in a single-pilot flight environment in IFR conditions, using a multi-engine aircraft flight trainer. Prerequisite(s): FAA Private Pilot Certificate with Instrument Rating or consent of department chair. Two credits.

### **AVT 210 MULTI-ENGINE CROSS-COUNTRY FLIGHT**

Focuses on cross-country flight in multi-engine aircraft. Flights will be conducted to and from high-traffic airports with approach control and tower facilities. All flights will be conducted under instrument flight rules. Prerequisite(s): AVT 208 or multi-engine rating. Two credits.

### **AVT 211 FUNDAMENTALS OF INSTRUCTION**

Focuses on preparation for the FAA Fundamentals of Instruction Knowledge Exam. Prerequisite(s): Commercial Pilot Certificate with Instrument Rating or consent of department chair. Two credits.

### **AVT 212 FLIGHT INSTRUCTOR GROUND SCHOOL**

Focuses on preparation for the FAA Flight Instructor Airplane Knowledge Exam. Prerequisite(s): AVT 211 or equivalent. Two credits.

### **AVT 213 FLIGHT INSTRUCTOR FLIGHT**

Focuses on flight training in preparation for the Flight Instructor Airplane, Single-Engine Land FAA Practical Test, completing requirements for the Flight Instructor Certificate. Prerequisite(s): AVT 211 and 212, or equivalent instruction and approval of department chair. One credit.

### **AVT 214 COMMERCIAL FLIGHT II, HELICOPTER**

Continues flight training in preparation for the Commercial Pilot Helicopter FAA Practical Test, completing requirements for the Commercial Pilot Certificate. Prerequisite(s): AVT 204. Five credits.

### **AVT 215 FLIGHT INSTRUCTOR FLIGHT, HELICOPTER**

Focuses on flight training in preparation for the Flight Instructor Helicopter FAA Practical Test, and completing requirements for the Flight Instructor Helicopter Certificate. Prerequisite(s): FAA Commercial Pilot Certificate, Helicopter. One credit.

### **AVT 216 COMMERCIAL HELICOPTER, ADD-ON FLIGHT**

Focuses on flight training in preparation for Commercial Helicopter Add-On to an existing private or commercial pilot airplane certificate and completing requirements for the Commercial Pilot Certificate. Prerequisite(s): FAA Private or Commercial Pilot Certificate, Airplane. Four credits.

### **AVT 218 ATC PROCEDURES**

Focuses on IFR operations in the Air Traffic Control System, including general procedures, terminal and IFR procedures, radar and non-radar environments, enroute procedures, and special and emergency procedures. Prerequisite(s): AVT 103 and AVT 115 or consent of department chair. Four credits.

### **AVT 221 INSTRUMENT INSTRUCTOR GROUND SCHOOL**

Focuses on preparation for the FAA Instrument Instructor Knowledge Exam. Prerequisite(s): Flight Instructor Certificate - Airplane Single-Engine land, or consent of department chair. Two credits.

### **AVT 222 INSTRUMENT INSTRUCTOR FLIGHT**

Focuses on flight training in preparation for the Flight Instructor Instrument Airplane, Single-Engine Land FAA Practical Test, completing requirements for the Instrument Instructor Certificate. Prerequisite(s): Flight Instructor Certificate, Airplane Single-Engine Land. One credit.

### **AVT 223 MULTI-ENGINE INSTRUCTOR FLIGHT**

Focuses on flight instruction in preparation for the addition of Multi-Engine Rating to the Flight Instructor Airplane Single-Engine Land Certificate. Prerequisite(s): Flight Instructor - Airplane Single Engine Land Certificate. One credit.

### **AVT 224 CFI INSTRUMENT HELICOPTER**

Teaches necessary knowledge and skills to pass the FAA Flight Instructor Instrument Rotorcraft Helicopter written and practical tests. Prerequisite(s): AVT 215, or FAA Flight Instructor Helicopter Certificate. One credit.

### **AVT 226 FLIGHT DECK CREW MANAGEMENT TRANSITION TRAINER**

Focuses on the skills necessary to operate in a two-pilot flight environment in IFR conditions, using a multi-engine aircraft flight trainer. Prerequisite(s): Commercial Pilot certificate with FAA Instrument Rating or consent of department chair. Three credits.

### **AVT 227 TRANSPORT-CATEGORY AIRCRAFT SYSTEMS**

Focuses on basic transport-category aircraft systems. Prerequisite(s): FAA Commercial Pilot Certificate or successful completion of AVT 201 or consent of department chair. Three credits.

### **AVT 228 REGIONAL TRANSPORT AIRCRAFT TRANSITION**

Develops the skills necessary for regional transport aircraft operations in a crew environment in IFR conditions, using a full-motion simulator. Non-motion flight trainers will be used as necessary to enhance preparation for the full-motion simulator. Prerequisite(s): Multi-Engine rating or AVT 226 or consent of department chair. Two credits.

### **AVT 229 AVIATION MANAGEMENT AND ECONOMICS**

Introduces the student to the history of aviation. Discusses the elements necessary for a successful commercial aviation business including organizational structure, management, marketing, operations, and finances. Prerequisite(s): None. Three credits.

### **AVT 230 CL-65 TYPE RATING PREP COURSE**

Prepares the student to pass oral and written exams on CL-65 aircraft systems procedures and aircraft limitations. Prerequisite(s): FAA Commercial Pilot Certificate with Instrument and Multi-Engine Ratings. Five credits.

### **AVT 231 ADVANCED REGIONAL TRANSPORT TRANSITION**

Provides advanced training, including systems and wind shear training, in regional transport aircraft operations in a crew environment in IFR conditions, in full-motion simulator and/or non-motion flight trainer. Prerequisite(s): AVT 228 or consent of department chair. Two credits.

### **\*AVT 232 FLIGHT MANAGEMENT SYSTEMS**

Focuses on the Flight Management Systems (FMS), including autopilot, mode control panel (MCP) and Flight Management Computer (FMC) as installed and used on advanced aircraft. Prerequisites: Commercial Pilot certificate with FAA Instrument rating or consent of department chair. Two credits.

\*Pending State Approval.

### **AVT 235 PILOT REFRESHER FLIGHT**

Provides a refresher to allow a certified pilot to maintain or regain proficiency. May count as a flight review when the requirements of CFR Part 61.56 are met. Prerequisite(s): Pilot or Commercial Certificate. One credit.

### **AVT 236 TAIL WHEEL TRANSITION FLIGHT**

Focuses on flight training in preparation to receive the Tail-Wheel Endorsement from a Certificated Flight Instructor. Prerequisite(s): Private Pilot Certificate or consent of department chair. One credit.

### **AVT 237 BASIC AEROBATICS**

Introduces the student to the unusual attitudes of flight with emphasis on technique and recovery from inadvertent unusual attitudes. Maneuvers may include but are not limited to stalls, spins, aileron rolls, loops, Cuban eights, barrel rolls, split "s", and cloverleaf. The FAA-required parachutes are provided. All flights in this course are dual only. Prerequisite(s): Private Pilot Certificate or consent of department chair. One credit.

### **AVT 241 AIRLINE TRANSPORT PILOT FLIGHT**

Focuses on flight instruction in preparation for the FAA Airline Transport Pilot Practical Test. Prerequisite(s): 1,500 hours of pilot time, 23 years of age, a current Third Class Medical Certificate, passed the ATP Knowledge Exam within past two years, able to meet requirements of CFR Part 61, Subpart G. One credit.

### **AVT 242 ATC PHRASEOLOGY II**

Focuses on the proper use of phraseology in the radar environment. Prerequisite(s): AVT 115 or consent of department chair. One credit.

### **AVT 245 NON-RADAR SIMULATION**

Focuses on non-radar ATC procedures, flight strip preparation and marking, non-radar IFR separation, and practice scenarios. Prerequisite(s): AVT 218 and AVT 242 or consent of department chair. Nine credits.

### **AVT 246 RADAR SIMULATION**

Focuses on radar ATC procedures, radar separation, radar traffic information, hand-off procedures, identification of non-beacon and beacon-equipped aircraft, and practice scenarios. Prerequisite(s): AVT 245 or consent of department chair. Nine credits.

### **AVT 247 SPECIAL ATC PROCEDURES**

Focuses on the ATC Command center, military and special operations, and emergencies. Prerequisite(s): None. Four credits.

### **AVT 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. Prerequisite(s): None. One to six credits.

### **AVT 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Prerequisite(s): Permission of instructor. One to six credits.

## **BIO: BIOLOGY SCIENCES**

NOTE: Science courses are listed under the following prefixes: AST (Astronomy), BIO (Biology), CHE (Chemistry), GEY (Geology), MET (Meteorology), PHY (Physics) and SCI (Science). All course prerequisites for science courses must be completed with a grade of "C" or better.

### **BIO 105 SCIENCE OF BIOLOGY**

(A.A. Degree only) Examines the basis of biology in the modern world and surveys the current knowledge and conceptual framework of the discipline. Explores biology as a science - a process of gaining new knowledge - as is the impact of biological science on society. Includes laboratory experiences. Designed for non-science majors. This course is a state guaranteed transfer course GT-SC1. Credit will not be given for both BIO 105 and BIO 111 for AS degree. Four credits.

### **BIO 106 BASIC ANATOMY AND PHYSIOLOGY**

(A.A. Degree only) (Formerly: BIO 120) Focuses on basic knowledge of body structures and function, and provides a foundation for understanding deviations from normal and disease conditions. This course is designed for individuals interested in health care and is directly applicable to the Practical Nursing Program, Paramedic Program and the Medical Office Technology Program. Program and transfers to selected four-year baccalaureate programs. This course also surveys all body systems. Laboratory portion includes microscopic study of tissue, skeleton and selected dissections and demonstrations. Credit will not be given for both BIO 106 and BIO 201 for AS degree. Four credits.

### **BIO 111 GENERAL COLLEGE BIOLOGY I WITH LAB**

Examines the fundamental molecular, cellular and genetic principles characterizing plants and animals. Includes cell structure and function, and the metabolic processes of respiration, and photosynthesis, as well as cell reproduction and basic concepts of heredity. The course includes laboratory experience. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): BIO 105 or high school general biology within last 5 years. Credit will not be given for both BIO 105 and BIO 111 for AS degree. Five credits.

### **BIO 112 GENERAL COLLEGE BIOLOGY II WITH LAB**

A continuation of Biology I. Includes ecology, evolution, classification, structure, and function in plants and animals. This course includes laboratory experience. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): BIO 111. Five credits.

### **BIO 201 HUMAN ANATOMY AND PHYSIOLOGY I**

Focuses on an integrated study of the human body including the histology, anatomy, and physiology of each system. Examines molecular, cellular, and tissue levels of organization plus integumentary, skeletal, articulation, muscular, nervous, and endocrine systems. Includes a mandatory hands-on laboratory experience covering experimentation, microscopy, observations, and dissection. This is the first semester of a two-semester sequence. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): BIO 105 or BIO 106 or BIO 111. Credit will not be given for both BIO 106 and BIO 201 for AS degree. Four credits.

## **BIO 202 HUMAN ANATOMY AND PHYSIOLOGY II**

Focuses on the integrated study of the human body and the histology, anatomy, and physiology of the following systems and topics: cardiovascular, hematology, lymphatic and immune, urinary, fluid and electrolyte control, digestive, nutrition, respiratory, reproductive, and development. Includes a mandatory hands-on laboratory experience involving experimentation, microscopy, observations, and dissection. This is the second semester of a two-semester sequence. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): BIO 201. Four credits.

## **BIO 204 MICROBIOLOGY**

Designed for health science majors. Examines microorganisms with an emphasis on their structure, development, physiology, classification, and identification. The laboratory experience includes culturing, identifying, and controlling microorganisms with an emphasis on their role in infectious disease. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): BIO 111 or BIO 201 or (BIO 105 and CHE 101) or permission of instructor. Four credits.

## **BIO 216 PATHOPHYSIOLOGY**

Focuses on the alterations in physiology, cellular, and biochemical processes, the associated homeostatic responses, and the manifestations of disease. Prior knowledge of cellular biology, anatomy, and physiology is essential for the study of pathophysiology. Prerequisite(s): BIO 201 and BIO 202 or their equivalent or permission of instructor. Four credits.

## **BIO 275 SPECIAL TOPICS**

Covers a specific topic within biology, as determined by the instructor. Reflects the special expertise of the faculty and/or the special needs of the students. Prerequisite(s): Permission of instructor. One to six credits.

## **BIO 285 INDEPENDENT STUDY**

Allows students to pursue a specific project within biology. The student and instructor determine the topic, outline of work, and method of evaluation. Prerequisite(s): BIO 111 or equivalent or Department or instructor approval. One to six credits.

## **HWE 100 HUMAN NUTRITION**

Listed in the HWE course section.

# **BTE: BUSINESS TECHNOLOGY**

## **BTE 102 KEYBOARDING APPLICATIONS I**

Designed for students with minimal keyboarding skills. Introduces letters, tables, memos, and manuscripts. Emphasizes speed and accuracy. Two credits.

## **BTE 108 TEN-KEY BY TOUCH**

Introduces touch control of the ten-key pad. Emphasizes the development of speed and accuracy using proper technique. One credit.

## **BTE 111 KEYBOARDING SPEEDBUILDING I**

Designed to increase speed and improve accuracy in keyboarding on the PC through the use of correct techniques and concentrated effort. This course is designed for students with typing speed less than 35 wpm. Two credits.

## **BTE 112 KEYBOARDING SPEEDBUILDING II**

Continues the skill building sets from BTE 111. This course is designed to increase speed and improve accuracy in keyboarding on the PC through the use of correct techniques and concentrated effort. Prerequisite: BTE 111. Two credits.

## **BTE 117 LEGAL TERMINOLOGY AND PROCEDURES**

Introduces legal terminology and its proper usage in legal documents, legal instruments, and legal correspondence. Emphasis will be placed on definition of legal terms and expressions, correct spelling of terms, correct pronunciation, proper usage in a legal context, and legal procedures. The student will gain a basic understanding of the various areas of the law and career opportunities. Three credits.

## **BTE 125 RECORDS MANAGEMENT**

Instructs on how records are created, stored, and retrieved. Covers the basic filing rules - classifying, indexing, coding, storing, and retrieving as applied to basic methods - alphabetic, chronological, subject, numeric, and geographic. Emphasizes "hand-on" records management through the use of simulations, which includes manual and/or computer software. Three credits.

## **BTE 131 BILLING SYSTEMS**

Develops the skills needed to use a computerized billing system, such as TimeSlips. Prerequisite(s): ACC 121 with a grade of C or better or permission of instructor. One credit.

## **BTE 155 WORD PROCESSING TECHNIQUES I**

Provides instruction in the preparation of business documents for the modern office using current software and learning software commands and functions. Includes creating, processing, and editing documents. Prerequisite(s): Be able to type 35 wpm. Three credits.

## **BTE 202 OFFICE SIMULATION I**

Provides experience in using in-basket exercise typical of those occurring in an office operation. If focuses on procedures and computer skills needed for successful performance in the workplace. Three credits.

## **BTE 211 LEGAL FORMATTING**

Introduces keyboarding and formatting legal correspondence, legal instruments, and court documents and provides an introduction to legal procedures. Prerequisite(s): BTE 117 & BTE 155 with a grade of C or better or permission of instructor. Three credits.

## **BTE 213 INTRODUCTION TO LEGAL OFFICE PROCEDURES**

Simulates a typical legal office and acquaints students with the tasks and responsibilities performed in a legal office environment and shows how these tasks relate to the court system. Prerequisite(s): BTE 117 & BTE 211 with a grade of C or better or permission of instructor. Three credits.

## **BTE 225 ADMINISTRATIVE OFFICE MANAGEMENT**

Emphasis is place on functions of the office. Includes office organization, work in the office, office layout, equipment and supplies, procurement and control, work flow, forms design, record storage and retrieval systems, personnel administration and problems, and government control. Three credits.

## **BTE 229 LEGAL TRANSCRIPTION**

Prepares students to work as legal transcriptionists. Students transcribe a variety of legal documents and develop a legal vocabulary. Prerequisite(s): BTE 211 with a grade of C or better or permission of instructor. Three credits.

### **BTE 238 LEGAL OFFICE PROCEDURES**

Designed for students who will be working in a legal office either in the private or the public sector. Covers fundamental office procedures found in both general and specialized law offices. Prerequisite(s): BTE 213 with a grade of C or better or permission of instructor. Three credits.

### **BTE 255 WORD PROCESSING TECHNIQUES II**

Introduces basic applications for advanced word processing for Windows. It reviews and expands the students' knowledge of MS Word functions including merging, sorting, tables, charts, desktop publishing newsletters, document enhancements, styles, macros, templates and wizards to increase proficiency. Prerequisite(s): BTE 155 with a grade of C or better or permission of instructor. Three credits.

### **BTE 257 MANAGING OFFICE TECHNOLOGY**

Utilizes integrated software applications to research, explore, and report on current concepts of the cooperative computing environment and how office productivity is affected by modern technology. One of the objectives of this course is to have students secure certification in one of the office product platforms. Prerequisite(s): BTE 255 with a grade of C or better or permission of instructor. Three credits.

### **BTE 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

## **BUS: BUSINESS**

### **BUS 111 INTRODUCTION TO BUSINESS PRESENTATION SOFTWARE I**

Surveys the components of at least three different presentation software programs. Emphasis includes design and layout concepts integrating graphics, text, sound, and animation to create business documents such as: presentations, overheads, handouts, outlines, company letterheads, sales flyers, business newsletters, and other business documents recommended by IAAP (International Association of Administrative Professionals). Prerequisite(s): BTE 155 with a grade of C or better or permission of instructor. Three credits.

### **BUS 112 INTRODUCTION TO BUSINESS PRESENTATION SOFTWARE II**

Develops more extensive knowledge of multimedia technology through creating web pages and designing an original web site using a web page software and creating desktop publishing documents using desktop publishing software. Emphasis includes advanced design and layout concepts integrating audio and graphic components to create business documents such as: websites, three-panel brochures, business cards, calendars, certificates, and other business documents recommended by IAAP (International Association of Administrative Professionals). Prerequisite(s): BUS 111 with a grade of C or better or permission of instructor. Three credits.

### **BUS 115 INTRODUCTION TO BUSINESS**

Focuses on the operation of the American business system. Covers fundamentals of the economy, careers and opportunities, marketing, management, production, governmental regulations, tools of business and social responsibilities. Three credits.

### **BUS 216 LEGAL ENVIRONMENT OF BUSINESS**

Emphasizes public law, regulation of business, ethical considerations, and various relationships existing within society, government, and business. Specific attention is devoted to economic regulation, social regulation, regulation and laws impacting labor-management issues, and environmental concerns. Students develop an understanding of the role of law in social, political, and economic change. Three credits.

### **BUS 217 BUSINESS COMMUNICATION & REPORT WRITING**

Emphasizes effective business writing and covers letters, memoranda, reports, application letters, and resumes. Includes the fundamentals of business communication and an introduction to international communication. Prerequisite(s): ENG 090 with a grade of C or better or appropriate assessment scores. Three credits.

### **BUS 226 BUSINESS STATISTICS**

Focuses on statistical study, descriptive statistics, probability, and the binominal distribution, index numbers, time series, decision theory, confidence intervals, linear regression, and correlation. Intended for the business major. Prerequisite(s): MAT 099 with a grade of C or better or permission of instructor. Three credits.

### **BUS 281 INTERNSHIP**

Provides continued instruction and the opportunity for students to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. Prerequisite(s): Another course may substitute with advisor approval. Must be taken as one of the last five classes of degree. One to six credits.

### **BUS 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

### **CIS 145 COMPLETE PC DATABASE**

Listed in the CIS course section.

### **MAT 112 FINANCIAL MATHEMATICS**

Listed in the MAT course section.

### **MOT 110 MEDICAL OFFICE ADMINISTRATION**

Listed in the MOT course section.

### **MOT 120 MEDICAL OFFICE FINANCIAL MANAGEMENT**

Listed in the MOT course section.

### **MOT 130 INSURANCE BILLING AND CODING**

Listed in the MOT course section.

### **MOT 132 MEDICAL TRANSCRIPTION I**

Listed in the MOT course section.

### **PSY 100 PSYCHOLOGY OF WORKPLACE RELATIONSHIPS**

Listed in the PSY course section.

# **CAD: COMPUTER AIDED DRAFTING**

## **CAD 100 BLUEPRINT READING FOR COMPUTER AIDED DRAFTING**

Covers linetype identification, identification of symbols, linear dimensions, angular dimensions, arrowless dimensions, machine process callouts, drawing notes, ANSI/ASME/ISO dimensioning standards, tolerances, freehand sketching and reading working drawings. Prerequisite(s): None. Three credits.

## **CAD 101 COMPUTER AIDED DRAFTING I**

Focuses on basic computer aided drafting skills using the latest release of CAD software. Includes file management, Cartesian coordinate system, drawing set-ups, drawing aids, layer usage, drawing geometric shapes, editing objects, array, text applications, basic dimensioning, and Help access. Prerequisite(s): Drafting computer skill required or permission of instructor. Three credits.

## **CAD 102 COMPUTER AIDED DRAFTING II**

Focuses on advanced computer aided drafting skills using the latest release of CAD software. Includes blocks and weblocks, polylines, multilines, polyline editing, advanced editing, editing with grips, hatching, isometric drawings, dimensions and dimension variables, paper space and viewports, templates, external references, and printing/plotting. Prerequisite(s): CAD 101 or permission of instructor. Three credits.

## **CAD 119 INTERMEDIATE CAD I**

Serves all areas of technical graphics. Includes producing two-dimensional working drawings using applications of geometric construction, intersection and development methods and animation techniques. Databases and file management systems are incorporated into the learning experience to improve and increase production time of technical drawings. Prerequisite(s): None. Three credits.

## **CAD 151 COMPUTER AIDED DRAFTING/TECHNICAL DRAFTING APPLICATIONS**

Focuses on the principles of technical drafting using the latest release of CAD software. Includes geometric constructions, multiview projection, sectional views, auxiliary views, manufacturing design and processes, dimensioning and tolerancing, threads, fasteners, classes of fit, design and working drawings, bill of materials, axonometric projection, intersections and developments, and gearing and cams. Prerequisite(s): None. Four credits.

## **CAD 160 AUTOCAD CERTIFICATE PREP I**

Prepares individuals for the assessment exams level I. This course shows how to prepare for engineering testing and evaluation of basic CAD drawings. Prerequisite(s): CAD 101 or permission of instructor. Three credits.

## **CAD 161 AUTOCAD CERTIFICATE PREP II**

Prepares individuals for the assessment exams level II. This course shows how to prepare for engineering testing and evaluation of advanced CAD drawings. Prerequisite(s): CAD 102 or permission of instructor. Three credits.

## **CAD 202 COMPUTER AIDED DRAFTING/3-D**

Focuses on construction of three-dimensional objects using the latest release of CAD software. Includes wireframe construction, surface modeling, solid modeling, extrusions, Boolean operations, 3D editing, 3D views, rendering, and 3D to 2D construction. Prerequisite(s): None. Three credits.

## **CAD 217 3-D VIZ**

Focuses on introductory level basic features of the software using the latest version of 3D VIZ. Includes creation and modification of primitive and complex shapes, Boolean constructions, creation and modification of lights, applying materials to objects, creation and modification of backgrounds, creation and adjustment of cameras, rendering, and animation by keyframing. Prerequisite(s): None. Three credits.

## **CAD 224 REVIT**

Provides students with the software application training in Auto Desk REVIT necessary to produce 3D Architectural models and 2D drawings utilizing AIA standards. Prerequisite(s): None. Three credits.

## **CAD 225 ARCHITECTURAL 2009**

Provides student with the software application training in Architectural desktop necessary to produce 3D Architectural drawing utilizing 2D drafting skills. Prerequisite(s): None. Three credits.

## **CAD 231 LAND DESKTOP/AUTODESK**

Focuses on the basic command structure and applications of civil mapping concepts utilizing a civil software, to include data collection files, symbols libraries, setting attributes, COGO, layer control, surface modules, road calc, and site design. All course work is completed on a CAD system. Prerequisite(s): None. Three credits.

## **CAD 233 CIVIL 3D (AUTODESK)**

Provides students with the basics to advanced software application necessary to produce 3D civil models and 2D drawings using the latest release of the Civil 3D software. This course will cover topics including components and program interface, linework, geometry, 2D to 3D civil CAD applications. Prerequisite(s): None. Three credits.

## **CAD 236 MAP/AUTODESK**

Advances to CAD techniques employed in the creation of precision mapping, topology, and GIS analysis for civil engineering. Topics include 2 & 3-D viewing and 2 & 3-D geometry construction drawings. Prerequisite(s): None. Three credits.

## **CAD 240 INVENTOR I/AUTODESK**

Introduces basic non-parametric 3D concepts to build confidence in 3D thinking and moves on to three-dimensional parameters. The student learns to construct, modify, and manage complex parts in 3D space as well as how to produce 2D drawings from the 3D models. Prerequisite(s): None. Three credits.

## **CAD 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

## **CAD 280 INTERNSHIP**

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. Instructor permission required. One to six credits.

## CAR: CARPENTRY

### CAR 100 INTRODUCTION TO CARPENTRY

Provides a basic introduction to construction work for all crafts. This course specifically applies to construction sites. One credit.

### CAR 101 BASIC SAFETY

An overview of safety concerns and procedures in the construction field. One credit.

### CAR 102 HAND AND POWER TOOLS

Focuses on basic hand and power tools including stationary tools. Emphasizes a hands-on approach to proper and safe use of these tools as it applies to the construction environment and is taught in conjunction with a lab or framing class. One credit.

### CAR 105 JOB SITE LAYOUT AND BLUEPRINT READING

Introduces blue-print reading and how they apply to the construction site. Includes in-depth introduction to site layout (materials and methods). One credit.

### CAR 115 FORM & FOUNDATION SYSTEMS

Covers materials and methods for concrete forms and foundations. Includes various reinforcement methods such as re-bar and welded fabric. One credit.

### CAR 125 ROOFING MATERIALS AND METHODS

Covers application techniques and estimation of asphalt and wood roofing products and accessories including gutters and flashing. One credit.

### CAR 130 WINDOWS AND EXTERIOR DOORS

Describes the various types of windows, skylights and exterior doors and provides instructions for installing them. Includes instructions for installing weather-stripping and locksets. One credit.

### CAR 133 CONSTRUCTION FRAMING & SAFETY

Utilizes hands-on techniques to illustrate basic framing methods and materials. Floor/Wall/ and Roof framing will be discussed/demonstrated and taught. There will be extensive utilization of modern and western residential framing methods. The course will also include 10 hours of OSHA approved safety instruction, which will qualify the student for their "10 hour safety card". Four credits.

### CAR 136 REMODEL/RENOVATION/ADDITIONS

Covers conversions of attic and basement spaces to usable living spaces and additions for renovation to existing residential structures, including kitchens and baths. Examines materials scheduling, estimation, and construction methods. Four credits.

### CAR 156 SHOP TOOLS: STATIONARY, HAND AND PORTABLE

Covers the safe use and care of stationary, hand and portable tools. Develops skills through tool utilization to pass competency and safety tests for each tool. Four credits.

### CAR 160 FLOOR FINISHES

Covers installation and finishing of hardwood floors, laminate/engineered floors and tile. Includes discussion on advantages and disadvantages of various choices available. One credit.

### CAR 170 CLINICAL: CONSTRUCTION LAB 1

Continues to build upon the principles that are expected to be understood by students in the construction discipline. One credit.

### CAR 171 CLINICAL: CONSTRUCTION LAB 1

Continues to build upon the principles that are expected to be understood by students in the construction discipline. One credit.

## CHE: CHEMISTRY

NOTE: Science courses are listed under the following prefixes: AST (Astronomy), BIO (Biology), CHE (Chemistry), GEY (Geology), MET (Meteorology), PHY (Physics) and SCI (Science). All course prerequisites for science courses must be completed with a grade of "C" or better.

### CHE 101 INTRODUCTION TO CHEMISTRY I

(A.A. Degree only) (Formerly: CHE 110) Includes the study of measurements, atomic theory, chemical bonding, nomenclature, stoichiometry, solutions, acid and base, gas laws, and condensed states. Laboratory experiments demonstrate the above concepts qualitatively and quantitatively. Designed for non-science majors, students in occupational and health programs, or students with no chemistry background. This course is a state guaranteed transfer course GT-SC1. Credit will not be given for both CHE 101 and CHE 111 for AS degree. Prerequisite(s): MAT 099 or permission of instructor. (MAT 108 does not serve as prerequisite.) Five credits.

### CHE 102 INTRODUCTION TO CHEMISTRY II

(A.A. Degree only) (Formerly: CHE 120 & 210) Focuses on introductory organic and biochemistry (sequel to Introduction to Chemistry I). This course includes the study of hybridization of atomic orbitals for carbon, nomenclature of both organic and biochemical compounds, physical and chemical properties of various functional groups of organic chemistry, and physical and chemical properties of biochemical compounds along with their biochemical pathways. Laboratory experiments are included. This course is a state guaranteed transfer course GT-SC. Prerequisite(s): CHE 101 or permission of instructor. Five credits. This class is only offered in the Spring Semester.

### CHE 111 GENERAL COLLEGE CHEMISTRY I

(Formerly: CHE 111 & CHE 112) Focuses on basic chemistry and measurement, matter, chemical formulas, reactions and equations, stoichiometry and thermochemistry. This course covers the development of atomic theory culminating in the use of quantum numbers to determine electron configurations of atoms, and the relationship of electron configuration to chemical bond theory and molecular orbital theory. The course includes gases, liquids, and solids and problem-solving skills are emphasized through hands-on laboratory experiments. This course is a state guaranteed transfer course GT-SC1. Credit will not be given for both CHE 101 and CHE 111 for AS degree. Prerequisite(s): (1) One year high school chemistry or CHE 101; (2) MAT 099 or MAT 121 (corequisite); (3) permission of instructor. Five credits.

### CHE 112 GENERAL COLLEGE CHEMISTRY II

(Formerly: CHE 112 & CHE 113) Presents concepts in the areas of solution properties, chemical kinetics, chemical equilibrium, acid-base and ionic equilibrium, thermodynamics, electrochemistry, nuclear chemistry, and organic chemistry. This course emphasizes problem solving skills and descriptive contents for these topics. Hands-on laboratory experiments demonstrate qualitative and quantitative analytical techniques. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): CHE 111 and MAT 121 or permission of instructor. Five credits.

## CHE 211 ORGANIC CHEMISTRY I

(Formerly: CHE 211 & CHE 212) Focuses on compounds associated with the element carbon including structure and reactions of aliphatic hydrocarbons and selected functional group families. The course covers nomenclature of organic compounds, stereochemistry, reaction mechanisms such as SN1, SN2, E1 and E2. Hands-on laboratory experiments demonstrate the above concepts plus the laboratory techniques associated with organic chemistry. Prerequisite(s): CHE 112 or permission of Instructor. (CHE 211 is only offered Fall semester.) Five credits.

## CHE 212 ORGANIC CHEMISTRY II

(Formerly: CHE 212 & CHE 213) Continues the investigation into the chemistry of carbon-based compounds, their reactions and synthesis including the structure, physical properties, reactivities, and synthesis of organic functional groups not covered in the first semester. The course explores functional groups including alcohols, ethers, aromatics, aldehydes, ketones, amines, amides, esters, and carboxylic acids and the reactions and reaction mechanisms of aromatic compounds. An introduction to biochemical topics may be included if time permits. Hands-on laboratory experiences demonstrate the above concepts and the laboratory techniques associated with organic chemistry. Prerequisite(s): CHE 211 or permission of Instructor. (CHE 212 is only offered Spring semester.) Five credits.

## CHE 275 SPECIAL TOPICS

(Formerly: CHE 185) Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite(s): Permission of instructor. One to six credits.

## CHE 285 INDEPENDENT STUDY

(Formerly: CHE 295) Provides the opportunity for the highly motivated student to engage in intensive study and research on a specified topic under the direction of a faculty member. Includes the opportunity for a student to complete a course when the course has not been offered or has been canceled. The option to make independent study available is at the discretion of qualified faculty and the department chair. Prerequisite(s): Permission of instructor. One to six credits.

## CHI: CHINESE

NOTE: World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

## CHI 101 CONVERSATIONAL CHINESE I

Introduces beginning students to conversational Chinese and focuses on understanding and speaking Chinese. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

## CHI 111 CHINESE LANGUAGE I

Focuses on the development of functional proficiency in listening, speaking, reading and writing the Chinese language. Note: The order of the topics and methodology varies according to individual texts and instructors. Five credits.

## CIS: COMPUTER INFORMATION SYSTEM

NOTE: Computer Information System and Computer Science courses are listed under the following prefixes: CIS (Computer Information System), CNG (Computer and Networking Technology), CSC (Computer Science), CTC (Communication Technology), and CWB (Computer Web-Based).

## CIS 118 INTRODUCTION PC APPLICATIONS

Introduces computer concepts and components, as well as application-suite software and the Internet. Includes descriptions of and hands-on experiences with word processing, spreadsheets, databases, operating environments and other common PC application packages. Three credits.

## CIS 124 INTRODUCTION TO OPERATING SYSTEMS

Introduces concepts, terminology and hands-on skills in the use of DOS and Windows. Emphasizes navigation, file manipulation, file creation and troubleshooting. Three credits.

## CIS 145 COMPLETE PC DATABASE

Explores a complete array of database skills. Includes table, query, form, and report creation and modification. Other topics include application integration and automation of database tasks within the database. Three credits.

## CIS 146 DATABASE APPLICATION DEVELOPMENT: ACCESS

Covers the PC database concepts necessary to create database applications. Includes programming, shared files, resource locking, and database recovery. Prerequisite(s): CIS 145 or permission of instructor. Three credits.

## CIS 155 PC SPREADSHEET CONCEPTS: EXCEL

(Formerly: ACC 208) Exposes the student to a wide range of uses of the electronic spreadsheet with special emphasis on using it as a business tool. Includes fundamentals and terms, creating and saving workbooks, entering and using formulas, formatting, printing, multiple-page workbooks, creating charts, entering and using functions, managing lists, and simple macros. Three credits.

## CIS 175 SPECIAL TOPICS

(Formerly: CIS 185) Provides students with a vehicle to pursue in-depth exploration of special topics of interest. 0.25 to six credits.

## CIS 218 ADVANCED PC APPLICATIONS

Covers the advanced capabilities of a PC software applications suite. Emphasizes solving business problems by integrating data from all of the software applications that facilitate the production of useful information. Printed documents, reports, slides, and forms are produced to communicate information. Prerequisite(s): CIS 118 or permission of instructor. Three credits.

## CIS 220 FUNDAMENTALS OF UNIX

Covers the structure and fundamentals of the UNIX operating system. Includes the files system and file processing, various utility programs, and shell, multi-user operation, text processing and communications. Three credits.

## CIS 240 DATABASE DESIGN AND DEVELOPMENT

Introduces the basic concepts of relational databases, data storage, and retrieval. Covers database design, data modeling, transaction processing, and introduces the Structured Query Language for databases. Students wishing to secure a Database certificate should take this course and CIS 145 concurrently. Three credits.

### **CIS 244 SQL PL/SQL**

Provides a detailed introduction to the Structured Query Language (SQL) as used in modern relational database systems. Students will develop skills in storing, retrieving and manipulating data using SQL as well as in defining database objects using the portion of SQL known as the Data Definition Language (DDL). The course will also provide a detailed introduction to the PL/SQL programming language that is integral to some widely-used relational database systems, such as Oracle. Students will learn to create and maintain blocks of PL/SQL code that are used and shared by multiple forms, reports and program libraries. Users will learn to implement database triggers and other coded structures applicable to client/server databases. Three credits.

### **CIS 253 PROGRAMMING A MICROSOFT SQL SERVER 2000 DATABASE**

Provides students with the technical skills required to program a database solution by using Microsoft SQL Server 2000. Prerequisite(s): None. Three credits.

### **CIS 267 MANAGEMENT OF INFORMATION SYSTEMS**

Introduces the concepts and techniques of managing computer-based information resources. Includes hardware, software, personnel, control techniques, and the placement and integration of information systems resources within the organization. Three credits.

### **CIS 282 INTERNSHIP**

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. Instructor permission required. 0.5 to six credits.

## **CNG: COMPUTER & NETWORKING TECHNOLOGY**

NOTE: Computer Information System and Computer Science courses are listed under the following prefixes: CIS (Computer Information System), CNG (Computer and Networking Technology), CSC (Computer Science), CTC (Communication Technology), and CWB (Computer Web-Based).

### **CNG 101 INTRODUCTION TO NETWORKING**

Focuses on underlying concepts of data communications, telecommunications and networking. Emphasizes the terminology and technologies in current networking environments and provides a general overview of the field of networking as a basis for continued study in the field. Co-requisite(s): CIS 118 or permission of instructor. Three credits.

### **CNG 102 LOCAL AREA NETWORKS**

Introduces Local Area Networking. Focuses on discussions and demonstrations of planning, installing, and supporting networks. Co-requisite(s): CNG 101 or permission of instructor. Three credits.

### **CNG 104 INTRODUCTION TO TCP/IP**

Outlines four important networking architectures in corporate environments today - TCP/IP, SNA, AppleTalk, and DNA. Focuses on the major components and functions of each of these architectures as well as methods used to connect different architectures. Provides students with concepts that are important to the field of systems integration, as well as a conceptual basis for understanding network architectures. Three credits.

### **CNG 109 COMPUTER NETWORKING LAB**

Demonstrates problem-solving skills in data communications, telecommunications and networking. Covers workstation operation, wiring and cabling, network construction using a variety of network/internet devices, and configuring and managing Novell and Windows 2000 operating systems. Prerequisite(s): CNG 102 or permission of instructor. Three credits.

### **CNG 120 A+ CERTIFICATION PREPARATION**

(Formerly: CIS 282) Prepares students for the CompTIA A+ certification examination. Hardware and software concepts are reviewed using A+ techniques. Four credits.

### **CNG 121 COMPUTER TECHNICIAN I: A+**

Introduces personal computer hardware to gain the skills and knowledge for a successful entry-level computer service technician. Provides extensive hands-on work with computer systems. Includes PC setup and configuration, floppy and hard drive installation and basic maintenance and troubleshooting. Successful completion prepares the student for the core hardware service technician portion of the CompTIA A+ Certification Exam. Four credits.

### **CNG 122 COMPUTER TECHNICIAN II: A+**

Focuses on operating systems as well as installation of modems, tape backups, CD-ROM drives, and SCSI subsystems. Covers operating systems, Windows 9x, Windows NT and Windows 2000 installation, configuration and upgrading. Includes laser printers and backup power systems. This course prepares the student for the CompTIA A+ OS Technologies Exam. Three credits.

### **CNG 123 NETWORK SERVER BASICS: SERVER+**

Provides students who are preparing for roles as network support technicians with skills training in the support of multi-processor computers and high capacity data storage systems typical of servers used in medium to large-scale networks. Three credits.

### **CNG 124 NETWORKING I: NETWORK +**

Provides students with the knowledge necessary to understand, identify and perform necessary tasks involved in supporting a network. Covers the vendor-independent networking skills and concepts that affect all aspects of networking, such as installing and configuring the TCP/IP. This course also prepares students for the Networking II: Network + course. Three credits.

### **CNG 125 NETWORKING II: NETWORK +**

Continues to provide students with the knowledge necessary to implement and support a network. Focuses on the vendor-independent networking skills and concepts that affect all aspects of networking. The Networking I and II: Network + courses prepare students for the Network + certification. Three credits.

### **CNG 131 NETWORK SECURITY FUNDAMENTALS**

Delivers a comprehensive overview of network security, including general security concepts. Communication Security is studied, including remote access, e-mail, the Web, directory and file transfer, and wireless data. Common network attacks are introduced. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity. Computer forensics is introduced. Three credits.

### **CNG 132 PRINCIPLES OF INFORMATION SECURITY**

Examines the field of information security to prepare information systems students for their future roles as business decision-makers. The course presents a balance of the managerial and the technical aspects information security. The concepts covered in this course should be helpful for students working towards the Certified Information Systems Security Professional (CISSP) certification. Three credits.

### **CNG 133 NETWORK SECURITY: FIRE WALLS AND INTRUSION DETECTION AND NETWORK SECURITY**

Teaches students the basics of network firewall security. It covers basic installation techniques, discusses how to make an intelligent choice of firewall technology, and presents basic firewall troubleshooting. Three credits

### **CNG 136 GUIDE TO DISASTER RECOVERY**

Presents methods to identify vulnerabilities and take appropriate countermeasures to prevent and mitigate failure risks for an organization. It will take an enterprise-wide approach to developing a disaster recovery plan. Three credits

### **CNG 160 TELECOMMUNICATIONS I**

(Formerly: CIS 291) Introduces the background needed to understand telephony products and services in the telecommunications industry. Includes hardware and devices, transmission characteristics and codes, network configurations, software and protocols. Three credits.

### **CNG 163 EMERGING TECHNOLOGIES IN TELECOMMUNICATIONS**

Focuses on the next generation of telecommunication technologies. Includes next-generation networks, broadband infrastructure, VoIP, VPNs, authentication, Sonet, optical OADM's, broadband access solutions, and wireless communication options. Three credits.

### **CNG 165 CONVERGENT TECHNOLOGIES**

(Formerly: CIS 295) Summarizes telecommunications with a survey of how data, voice, video technologies are converging for telecommunications systems. Covers wireless, ISDN, PCM, DSL, cable, IP voice, and computer networks. Three credits.

### **CNG 210 WINDOWS 2000 NETWORK & OPERATING ESSENTIALS**

Provides individuals new to Microsoft Windows 2000 with the knowledge necessary to understand and identify the tasks involved in supporting Windows 2000 networks. Introduces an overview of networking concepts and how they are implemented in Windows 2000. Provides students with the prerequisite knowledge and skills required for course CNG 212, Implementing Windows 2000 Professional and Server. Three credits.

### **CNG 211 WINDOWS XP CONFIGURATION**

Provides students with the knowledge and skills necessary to address the implementation and desktop support needs of customers who are planning to deploy and support Microsoft Windows XP Professional in a variety of network operating system environments. Three credits.

### **CNG 212 MANAGING A MS WINDOWS SERVER ENVIRONMENT**

Provides students with the knowledge and skills that are required to manage accounts and resources, maintain server resources, monitor server performance, and safeguard data in a Microsoft Windows Server environment. Prerequisite(s): CNG 210 or permission of instructor. Four credits.

### **CNG 213 IMPLEMENTING A MS WINDOWS NETWORK INFRASTRUCTURE**

Provides students with the knowledge and skills to implement and manage a Microsoft Windows Server network infrastructure. Students will learn to implement routing; implement and manage Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); secure Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; configure a network access infrastructure, manage and monitor network access. Prerequisite(s): CNG 212 or permission of instructor. Four credits.

### **CNG 214 PLAN A MS WINDOWS SERVER NETWORK INFRASTRUCTURE**

Provides students with the knowledge and skills necessary to plan and maintain a Windows Server network infrastructure. Students will learn to Plan optimize and troubleshoot a TCP/IP physical and logical network, routing, Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS) Windows Internet Naming Service (WINS) and IPSec network access. Prerequisite(s): CNG 213 or permission of instructor. Four credits.

### **CNG 215 MANAGING A MICROSOFT WINDOWS NETWORK ENVIRONMENT**

Provides the knowledge required to implement, manage and troubleshoot existing network and server environments based on the Microsoft Windows® platform. These skills are generally required in medium to large size organizations that maintain 200 to 26,000 user desktops and servers, spanning 2 to 100 physical locations via Large Area Networks (LANs) and the Internet or Intranets. Prerequisite(s): CNG 214 or permission of instructor. Three credits.

### **CNG 216 PLAN A MS WINDOWS SERVER ACTIVE DIRECTORY INFRASTRUCTURE**

Provides students with the knowledge and skills to successfully plan, implement, and troubleshoot a Microsoft Windows Server Active Directory service infrastructure. The course focuses on a Windows Server directory service environment, including forest and domain structure, Domain Name System (DNS), site topology and replication, organizational unit structure and delegation of administration, Group Policy, and user, group, and computer account strategies. Four credits.

### **CNG 217 IMPLEMENTING SECURITY FOR MICROSOFT NETWORKS**

Provides students with the knowledge and skill necessary to implement, manage, maintain, and troubleshoot security in a Microsoft network infrastructure. Students will learn to plan and configure a Microsoft Public Key Infrastructure (PKI) system. Four credits.

### **CNG 221 DESIGN MS WINDOWS ACTIVE DIRECTORY AND NETWORK INFRASTRUCTURE**

Provides students with the knowledge and skills to design an Active Directory service and network infrastructure for a Microsoft Windows Server environment. The course is intended for systems engineers who are responsible for designing directory service and/or network infrastructures. Prerequisite(s): CNG 214 or permission of instructor. Three credits.

### **CNG 222 DESIGNING A WINDOWS SECURE NETWORK**

Provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks by using Microsoft Windows technologies. Students learn to secure access to Local Network Users, Remote Users and Remote Offices, Partners, and to secure access between private and public networks. Prerequisite(s): CNG 102 or permission of instructor. Three credits.

### **CNG 223 DESIGNING A WINDOWS NETWORK INFRASTRUCTURE**

Provides students with information and skills needed to create a networking services infrastructure design that supports the required network applications. Each module provides a solution based on the needs of the organization. Covers Windows network solutions that require a single technology, such as DHCP, to provide Internet Protocol (IP) address configuration support. Examines several technology options such as Open Shortest Path First (OSPF), Routing Information Protocol (RIP), and Internet Group Management Protocol (IGMP) to design an IP routing scheme. Prerequisite(s): CNG 214 or permission of instructor. Three credits.

### **CNG 224 MICROSOFT WINDOWS WIRELESS NETWORK**

Provides the student with the Microsoft official curriculum from the Microsoft Regional Academy. Offers detailed instruction on the foundation concepts and technologies of wireless data networking. Upon completion of this course, students are prepared to take the Certified Wireless Network Administrator (CWNP) Certification Exam. Three credits.

### **CNG 227 ADMINISTERING A MICROSOFT SQL SERVER DATABASE**

Provides students with the knowledge and skills required to install, configure, administer, and troubleshoot the client-server database management system of Microsoft® SQL Server. Three credits.

### **CNG 240 FUNDAMENTALS OF NETWORK SECURITY**

This course is part of the Cisco Networking Academy Program. Emphasizes security policy design and management, security technologies, products and solutions. Covers firewall and secure router design, installation, configurations and maintenance. Includes AAA and VPN implementation using routers and firewalls. This course enables the student to take the Cisco MCNS (Managing Cisco Network Security) and the CSPFA (Cisco Secure PIX Firewall Advanced) exams, giving the student the new Cisco Security Specialist 1 certification. NOTE: In order to take the MCNS and CSPFA exams, CCNA certification is required. Five credits.

### **CNG 253 FIREWALLS AND HOW THEY WORK**

Introduces students to the design and implementation of firewalls. Covers such topics as firewalls using CISCO Routers, Microsoft server platform and UNIX platform. Focuses on how firewalls function in these environments and the basic steps to plan and implement firewalls. Three credits.

### **CNG 258 COMPUTER FORENSICS**

Exposes the student to the field of Computer Forensics and investigation. Provides the student with methods to properly conduct a computer forensics investigation beginning with a discussion of ethics. Topics covered include fundamental concepts, history of computer forensics, file structures, data recovery techniques, computer forensic tools and analysis. The curriculum and objectives map to the International Association of Computer Investigative Specialists (IACIS) certification. Four credits.

### **CNG 260 CISCO NETWORK ASSOCIATE I**

Introduces network fundamentals, the OSI model and industry standards, IP addressing (subnet masks) and basic network design. Five credits.

### **CNG 261 CISCO NETWORK ASSOCIATE II**

Focuses on router theory and technologies, including router configurations, protocols, network management and introductory LAN switching. Prerequisite(s): CNG 260 or permission of instructor. Five credits.

### **CNG 262 CISCO NETWORK ASSOCIATE III**

Focuses on advanced routing and switching configurations, LAN switching, network management and advanced network design. Prerequisite(s): CNG 261 or permission of instructor. Five credits.

### **CNG 263 CISCO NETWORK ASSOCIATE IV**

Focuses on project-based learning, including advanced network design projects and advanced management projects. This course and CNG 260, 261 and 262 prepare students for the CISCO Certified Network Associate (CCNA) certification exam. Prerequisite(s): CNG 262 or permission of instructor. Five credits.

### **CNG 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Instructor permission required. One to six credits.

## **COM: COMMUNICATION**

### **COM 101 EMPLOYMENT STRATEGIES**

This course is designed to assist students with the development of skills that are needed to search for, and acquire a job. Topics include surveying job markets, building resumes, applying for jobs, and interviewing for positions. One credit.

### **COM 115 PUBLIC SPEAKING**

Combines the basic theory of speech communication with public speech performance skills. Emphasis is on speech delivery, preparation, organization, support, and audience analysis. Prerequisite(s): ENG 090 or with a grade of C or better or permission of instructor. Three credits.

### **COM 125 INTERPERSONAL COMMUNICATION**

Examines the communication involved in interpersonal relationships occurring in family, social and career situations. Relevant concepts include self-concept, perception, listening, nonverbal communication, and conflict. Three credits.

### **COM 126 COMMUNICATION IN HEALTHCARE**

Familiarizes the student with interactive concerns in settings related to patient-client care. Course includes discussions of diverse cultures, client interaction and family/caregiver issues. The student will also address the concerns of attitude, office politics, teamwork, self-initiative and conflict management as specifically experienced in the patient as client setting. Three credits.

### **COM 175 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **COM 226 ORAL INTERPRETATION**

Excites and exposes the student to the potential offered in the reading and performing of great literature such as is found in prose, poetry, and drama. Prerequisite(s): SPEE 115 with a grade of C or better or permission of instructor. Three credits.

### **COM 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

# CRJ: CRIMINAL JUSTICE

## CRJ 110 INTRODUCTION TO CRIMINAL JUSTICE

Introduces a study of the agencies and processes involved in the criminal justice system: the legislature, the police, the prosecutor, the public defender, the courts, and corrections. Includes an analysis of the roles and problems of the criminal justice system in a democratic society, with an emphasis upon inter-component relations and checks and balances. Three credits.

## CRJ 111 SUBSTANTIVE CRIMINAL LAW

Teaches legal definitions of crimes, purposes and functions of the law, historical foundations, and the limits of the criminal law. Three credits.

## CRJ 112 PROCEDURAL CRIMINAL LAW

Covers constitutional and procedural considerations affecting arrest, search and seizure, post-conviction treatment, origin, development, philosophy, and constitutional basis of evidence. Focuses on degrees of evidence and rules governing admissibility, judicial decisions interpreting individual rights, and an analysis of case studies from arrest through final appeal. Three credits.

## CRJ 125 LAW ENFORCEMENT OPERATIONS

Examines the complexity and multi-dimensional aspects of the law enforcement role and career; law enforcement discretion; law enforcement values and culture in modern America. Covers the role and functions of law enforcement in occupational, social, political and organizational context. Three credits.

## CRJ 135 JUDICIAL FUNCTION

Examines the criminal process with an analysis of the major judicial decision-makers, i.e., prosecutors, defense attorneys, judges, and the discretionary aspects of adjudication. Three credits.

## CRJ 145 CORRECTIONAL PROCESS

Focuses on the post-conviction corrections process, the development of correctional philosophy, theory, and practice, a description of institutional operation, programming and management, and community-based corrections, probation, and parole. Three credits.

## CRJ 150 VICTIMS OF CRIME AND TRAUMA

Introduces the student to the role the crime victim plays in the criminal justice system. The traditional response that a crime victim receives from the system will be studied and the psychological, emotional and financial impact these responses have on victimization will be analyzed. Three credits.

## CRJ 151 DOMESTIC VIOLENCE

Examines theories, issues, legal strategies, and interventions applicable to abuse in intimate relationships. Three credits.

## CRJ 153 VIOLENCE AGAINST CHILDREN

Includes an in-depth study of physical, sexual, and emotional abuse and neglect of children. Focuses on identification and treatment of abusive families and victims of abuse; and, the responses of the legal system, the community, and human service agencies. Three credits.

## CRJ 175 SPECIAL TOPICS

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

## CRJ 178 SEMINAR: ADVANCED OFFICER ACADEMY

Provides students with an experiential learning opportunity. One to six credits.

## CRJ 185 INDEPENDENT STUDY

This course meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## CRJ 210 CONSTITUTIONAL LAW

Focuses on the powers of government as they are allocated and defined by the United States Constitution. Includes intensive analysis of United States Supreme Court decisions. Three credits.

## CRJ 216 JUVENILE LAW AND PROCEDURES

Focuses on an in-depth analysis of the socio-legal operation of the Juvenile Justice System emphasizing the substantive and due process rights of minors. Includes analysis of legal reasoning underlying the juvenile law as it operates within all levels of government. Three credits.

## CRJ 220 HUMAN RELATIONS AND SOCIAL CONFLICT

Highlights the environmental, organizational and socio-psychological dimensions of social control. Includes the study of individual attitudes, beliefs and behavior involved in role conflicts, community relations and conflict management in the social structure. Three credits.

## CRJ 227 L.E. SUPERVISORY TRAINING PROGRAM

Develops the Law Enforcement Supervisor. It provides an overview of police supervision and gives the student an understanding of the first-line supervisor's role from three perspectives: management expectations, first-line supervisors' concept of the role, and subordinates' expectations. This is a P.O.S.T. approved course. Two credits.

## CRJ 230 CRIMINOLOGY

Examines the question of crime causation from legal, social, political, psychological and theoretical perspectives. Covers the history and development of criminology. Three credits.

## CRJ 231 INTRODUCTION TO FORENSIC SCIENCE AND CRIMINALISTICS

Focuses on the fundamentals of forensic science that are essential for gathering evidence at the crime scene and analyzing it in the crime laboratory. Three credits.

## CRJ 250 COMPUTER CRIME INVESTIGATION

Provides a basic foundation of the skills and knowledge necessary to understand and investigate the computer criminal. Investigative procedures, interviewing skills and the necessity of search warrants will be covered. Legal issues regarding personal liability, privacy and wiretapping will also be discussed. Three credits.

## CRJ 251 INTERNET CRIMINAL ACTIVITY I

Covers basic criminal investigation methods and procedures for Internet Crime, including but not limited to extortion, espionage, threats, child pornography, hacking and piracy. Threats on information systems and defenses will be examined. Three credits.

## CRJ 252 INTERNET CRIMINAL ACTIVITY II

Examines various investigation techniques from tools used to commit crimes to tools used to prevent, detect and track intrusion. E-mail headers, internet protocol and intelligence gathering will also be explored. Three credits.

### **CRJ 253 COMPUTER CRIME INVESTIGATION**

Provides students with the foundational principles necessary to successfully navigate and understand the complicated evidence collection process. Enables the student to develop insight into the judicial process. Three credits.

### **CRJ 275 SPECIAL TOPICS: ADVANCED SUBSTANTIVE CRIME LAW**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **\*CRJ 278 SEMINAR**

Provides students with an experiential learning opportunity. Includes advanced procedural criminal law, restorative justice and psych of criminal behavior. Psych of criminal behavior focuses on the history, theories, personality structure and responses to criminal behavior. Two credits.

### **CRJ 280 INTERNSHIP**

Provides placement in the criminal justice field to integrate theory with practice. One to six credits.

### **CRJ 286 DIRECTED STUDIES: DISCRETIONARY JUSTICE**

Focuses on an independent project designed to enhance the student's ability by concentrating on an assignment more complex than that achieved in a classroom setting. Three credits.

### **CRJ 289 CAPSTONE**

(Formerly: CRJ 271) Provides a demonstrated culmination of learning within a given program of study. One to six credits.

## **PEACE OFFICER ACADEMY**

All Peace Officer Academy classes conform to POST standards and state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a Police Officer. Permission of Academy Director is required to register.

### **CRJ 101 BASIC LAW ENFORCEMENT ACADEMY**

Conforms to POST standards and state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a Police Officer. Emphasis will be on simulating actual situations utilizing a lecture and laboratory mode of learning. Prerequisite(s): Permission of Academy Director. Eight credits.

### **CRJ 102 BASIC LAW ENFORCEMENT ACADEMY II**

Conforms to POST standards and state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a Police Officer. Emphasis will be on simulating actual situations utilizing a lecture and laboratory mode of learning. Prerequisite(s): Permission of Academy Director. Six credits.

### **CRJ 103 BASIC LAW ENFORCEMENT ACADEMY III**

Enhances the standards established by the P.O.S.T. Board and state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a Police Officer. Emphasis will be on expanding the P.O.S.T. curriculum to create a unique learning experience. Prerequisite(s): Permission of Academy Director. Two credits.

### **CRJ 104 BASIC LAW ENFORCEMENT ACADEMY IV**

Enhances the standards established by the P.O.S.T. Board and state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a Police Officer. Emphasis will be on expanding the P.O.S.T. curriculum to create a unique learning experience. Prerequisite(s): Permission of Academy Director. One credit.

### **CRJ 105 BASIC LAW**

Covers constitutional and procedural considerations affecting arrest, search and seizure, and civil liability. Includes the Colorado criminal, liquor, controlled substance, and children's codes. Emphasizes victim's rights and court room testimony. Prerequisite(s): Permission of Academy Director. Six credits.

### **CRJ 106 ARREST CONTROL TECHNIQUES**

Covers the skills, knowledge and abilities necessary to effectively maintain control of a suspect when making an arrest. Emphasizes the continuum of force and de-escalation of force. Prerequisite(s): Permission of Academy Director. Three credits.

### **CRJ 107 LAW ENFORCEMENT DRIVING**

Covers the skills, knowledge and abilities required for operation of a law enforcement vehicle. Emphasizes defensive driving. Enables students to demonstrate skills by driving a vehicle under simulated conditions. Prerequisite(s): Permission of Academy Director. Three credits.

### **CRJ 108 FIREARMS**

Discusses the skills, knowledge and abilities necessary to safely use police firearms. Students will demonstrate skills by firing weapons on a firing range. The student will demonstrate basic safety techniques and will explain the firearms role within the continuum of force. Prerequisite(s): Permission of Academy Director. Three credits.

### **CRJ 118 REPORT WRITING**

Identifies the areas of concern in regards to proper documentation of police related activities. Focuses on report writing skills, proper structuring of interviews and chronological documentation of events. Incorporates proper sentence structuring, the use of correct terminology and accuracy in written reports. Prerequisite(s): Permission of Academy Director. Three credits.

### **CRJ 126 PATROL PROCEDURES**

Focuses on an in-depth study of the basic knowledge and skills required of a peace officer to safely and effectively accomplish the patrol procedure. Prerequisite(s): Permission of Academy Director. Three credits.

### **CRJ 127 CRIME SCENE INVESTIGATION**

Focuses on basic procedures in crime scene management to include photography and preparing initial reports and sketches. Includes processing evidence and related criminalistic procedures. Covers interviewing suspects, witnesses and victims to include the recording of identifications and descriptions. Incorporates lab and lecture. Prerequisite(s): Permission of Academy Director. Three credits.

### **CRJ 132 INTRODUCTION/Framework for COMMUNITY POLICING/OFFICER SURVIVAL**

Explains the genesis of community policing and its implications for police operations, citizen involvement and community safety. Prerequisite(s): Permission of Academy Director. One credit.

### **CRJ 209 CRIMINAL INVESTIGATION I**

Covers the function of the preliminary investigation at a crime scene to include securing the scene, crime scene searchers, police drawings, and recognition and collection of evidence. Prerequisite(s): Permission of Academy Director. Three credits.

## **CRJ 246 TRAFFIC INVESTIGATION**

Provides an overview of the skills and concepts necessary to complete an accurate investigation of a traffic collision. Emphasizes traffic management concepts, selective traffic enforcement, and safety issues. Prerequisite(s): Permission of Academy Director. Three credits.

## **CSC: COMPUTER SCIENCE**

**NOTE: Computer Information Systems and Computer Science courses are listed under the following prefixes: CIS (Computer Information Systems), CNG (Computer and Networking Technology), CSC (Computer Science), CTC (Communication Technology), and CWB (Computer Web-Based).**

### **CSC 105 COMPUTER LITERACY**

Introduces computers and includes the history of computers and their impact on society. Focuses on microcomputer terminology as well as criteria for evaluating hardware and software. Enables students to develop a working knowledge of an operating system, the internet, and several microcomputer applications. Three credits.

### **CSC 116 LOGIC AND PROGRAM DESIGN**

Introduces computer program design using concepts of structured programming and logic. Includes pseudocode, flowcharts, and structure charts. Covers variables, data types, control structures, looping, program breaks, and arrays. Three credits.

### **CSC 150 VISUAL BASIC PROGRAMMING**

Introduces programming and applications development for the Microsoft Windows Programming environment using Visual Basic for Windows. Co-requisite(s): CSC 116 or permission of instructor. Three credits.

### **CSC 151 ADVANCED VISUAL BASIC PROGRAMMING**

Builds on the skills learned in CSC150. Focuses on more involved applications, work with advanced controls, and deal with additional advanced topics. Prerequisite(s): CSC 150 or permission of instructor. Three credits.

### **CSC 160 COMPUTER SCIENCE I: (LANGUAGE)**

Introduces students to the discipline of computer science. Covers algorithm development, data representation, logical expressions, sub-programs and input/output operations using a structured programming language. Requires intensive lab work outside of class time. Prerequisite(s): CSC 116 or permission of instructor. Four credits.

### **CSC 161 COMPUTER SCIENCE II: (LANGUAGE)**

Continues the structured algorithm development and problem solving techniques begun in Computer Science I. Enables students to gain experience in the use of data structures and design of larger software projects. Requires intensive computer laboratory experience. Prerequisite(s): CSC 160 or permission of instructor. Four credits.

### **CSC 200 GAME PROGRAMMING I (C++/ALLEGRO)**

Introduces the C++ student to game programming techniques and using a game library. Skills developed include programming input devices, 2D game theory and design, bit map handling, sprite programming and threads. Three credits.

### **CSC 216 COMPUTER GAME LOGIC AND DESIGN**

This course teaches the fundamentals of two and three dimensional game programming. The course includes use of graphics, sound and multiple input devices. Three credits.

## **CSC 225 COMPUTER ARCHITECTURE/ASSEMBLY LANGUAGE PROGRAMMING**

Introduces concepts of computer architecture, functional logic, design and computer arithmetic. Focuses on the mechanics of information transfer and control within a computer system. Includes symbolic programming techniques, implementing high level control structures, addressing modes and their relation to arrays, subprograms, parameters, linkage to high level languages and the assembly process. Prerequisite(s): CSC 160 or permission of instructor. Four credits.

### **CSC 251 PROGRAMMING IN VISUAL BASIC.NET**

Provides students with the knowledge and skills needed to develop Microsoft .NET-based applications by using Visual Basic .NET. Focuses on Visual Basic .NET (a significant upgrade to Visual Basic) and incorporates new features and framework goals of the .NET architecture. Enables the student to create enterprise applications for the .NET Platform and to create more traditional Visual Basic applications that take advantage of the enhancements to the language. Prerequisite(s): CSC 151 or permission of instructor. Three credits.

### **CSC 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **CSC 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Instructor permission required. One to six credits.

## **CSL: COUNSELING**

**NOTE: Psychology, counseling, and career courses are found under the following prefixes: COM (Communications), CSL (Counseling), HHP (Holistic Health Professional), HSE (Human Services), PSY (Psychology), SWK (Social Work).**

### **CSL 175 - SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Zero to twelve credits.

### **CSL 178 SPECIAL TOPICS SEMINAR**

(Formerly: CSL 101, CSL 102, CSL 111, CSL 112) A seminar of interest in psychology to include New Student Orientation Program. Zero to three credits.

### **New Student Orientation Program**

Provides new students with the information and strategies needed to navigate their first year at Aims Community College.

### **CSL 235 OVERCOMING TEST ANXIETY**

Focuses on identification of the causes of test anxiety and methods for overcoming test anxiety. One credit.

### **CSL 253 COGNITIVE BEHAVIORAL THERAPY**

Opportunity for students to learn the model of Cognitive Behavior Therapy as it applies to addiction. Discussion of the populations of clients where this model has proven most effective. Opportunity for skills practice during class that includes clinical feedback. One credit.

## **CTC: COMMUNICATION TECHNOLOGY**

NOTE: Computer Information System and Computer Science courses are listed under the following prefixes: ART (Photography), CIS (Computer Information System), CNG (Computer and Networking Technology), CSC (Computer Science), CTC (Communication Technology), and CWB (Computer Web-Based). Other communication technology courses are listed under the following prefixes: EDU (Education), FVT (Film & Video Technology), JOU (Journalism), MGD (Multimedia Graphic Design), MUS (Music), and RTV (Radio & Television).

### **CTC 105 OVERVIEW OF TELECOMMUNICATIONS**

Provides the student with the background and history of the telecommunications field. Includes transmission systems, LAN data communication, cable communication, telephone communication and video technology. Three credits.

### **CTC 116 FIBER OPTICS TECHNICIAN**

Provides information on fiber optic system overview, applications, rackmount optical transmitters and receivers, forward and return optical node operations and activation, fiber optic design topologies, fiber design cost studies, fiber optic system design, fiber construction, fiber tests and documentation, and optical test equipment. Three credits.

### **CTC 120 UNDERSTANDING VOICE & DATA NETWORKS**

Introduces telecommunications technology and terminology and develops a broad knowledge base for a career in the telecom industry. Requires no prior technical background or experience in the field. Enables a student to gain a comprehensive understanding of telecommunications technologies and their applications and implications for business. Combines computer, electrical engineering and business aspects of telecommunications, providing a thorough, up-to-date presentation of the latest technologies as well as practical industry applications. Three credits.

### **CTC 150 DATA COMMUNICATIONS**

Provides the student with an overview of network systems. Focuses on the architecture of each network, transmission modes, functions, uses, protocols and advantages of each. Addresses synchronous as well as asynchronous data systems. Three credits.

### **CTC 161 VOICE COMMUNICATIONS**

Provides students with an overview of telephone communication systems. Addresses the components and processes used in a public switched network, residence, business and special telephone service, class 5 switching centers, outside telephone plants, video delivery and video conferencing. Covers the operation and application of pagers. Three credits.

### **CTC 166 EMERGING TECHNOLOGIES**

Provides the student with an opportunity to research concepts and applications of related technologies that are being reviewed and experimented with today. Focuses on presentations and discussions with industry experts. Enables students to develop presentations on areas of interest in emerging technologies. Covers applications and implications of new discoveries. Two credits.

### **CTC 248 LEGAL AND ETHICAL ISSUES IN TELECOMMUNICATIONS**

Analyzes the social, political and economic implications of modern telecommunications. Students will learn about the complex issues confronting each step in the R & D production of enhanced telecommunication equipment and services on a social and ethical level. Telecommunications includes voice, video and data applications. The course will challenge the responsibilities

of Internet providers who have embraced the use of technology to promote their businesses and are now being confronted with a variety of ethical and moral criticisms. Three credits.

## **CWB: COMPUTER WEB-BASED**

NOTE: Computer Information System and Computer Science courses are listed under the following prefixes: CIS (Computer Information System), CNG (Computer and Networking Technology), CSC (Computer Science), CTC (Communication Technology), and CWB (Computer Web-Based).

### **CWB 110 COMPLETE WEB AUTHORING**

Explores the complete set of web authoring skills using HTML and/or other scripting languages. Includes links, backgrounds, controlling text and graphic placement, tables, image maps, frames and forms. Prerequisite(s): None. Three credits.

### **CWB 204 CASCADING STYLE SHEETS**

Explores the use of the Cascading Style Sheets (CSS) style language as a means of separating content and presentational elements on web pages. The class is intended for students having a working knowledge of XHTML and that are interested in learning to use style sheets to control display properties on a web site or other application using XHTML. Three credits.

### **CWB 205 COMPLETE WEB SCRIPTING**

Explores the complete set of web scripting skills needed to develop Web Applications. Includes variables, data types, arithmetic operations, logical operations, looping, creating and reading cookies, creating an array, displaying data based on a cookie value, setting flags, working with frames, creating objects in a hidden frame, using the History Object, writing HTML to another window, determining browser and detecting keystrokes. Prerequisite(s): CWB 110 and CSC 116 or permission of instructor. Three credits.

### **CWB 206 WEB DATA BASE**

Emphasizes scripting languages used to create and manage Web databases. Targets to multimedia authors who wish to add database management and search functionality to their web sites. Enables students to build an inexpensive, portable database solution. Co-requisite(s): CWB 205 and CIS 145 or permission of instructor. (Course uses Apache Web Server, MySQL, and PHP on a Linux Platform.) Three credits.

## **DAN: DANCE**

(Physically challenged students planning to register for a Physical Education class should contact the Physical Educational Department at 970.339.6295, no less than three days before registering to ensure access to and success in the chosen class.)

NOTE: Physical Education courses are found under the following prefixes: DAN (Dance), HWE (Health and Wellness), PED (Physical Education), PER (Physical Education and Recreation).

### **DAN 105 HIP HOP DANCE I**

Learn basic traditional jazz and ballet movements through Hip Hop Dance. Warm-up exercises will include body toning and stretching. Students will learn diagonal step combinations leading to hip-hop dance routines. One credit.

### **DAN 106 HIP HOP DANCE II**

Learn traditional jazz, ballet and street dancing techniques as well as warm-up exercises such as body toning and stretching through Hip Hop Dance II. Students will learn diagonal and center step combinations leading to hip-hop dance routines. One credit.

### **DAN 111 MODERN DANCE I**

Introduces basic concepts and skills of modern dance. Focuses on technique work to increase strength, flexibility, endurance, coordination, rhythm and spatial awareness. Explores dance as a tool for communication and dance as an art form. May be repeated for no more than three credits. One credit.

### **DAN 115 COUNTRY SWING I**

Teaches many styles and various combinations of steps for Western dance music. Will also teach the students how to convert combinations of other dances of traditional and fad as they become popular. None. One credit.

### **DAN 116 COUNTRY SWING II**

Teaches advanced steps and dancing skills which will enable the student to enjoy the art of dancing for leisure time activity. One credit.

### **DAN 121 JAZZ I**

Introduces the basic techniques and vocabulary of jazz dance and the basic elements of dance. Focuses on movement oriented dance, comprised of warm-up exercises, center combinations, traveling combinations and cool down. May be repeated for a maximum of three credits. One credit.

### **DAN 122 JAZZ II**

Continues Jazz I with an increased knowledge of jazz dance. Enables the student to work at an intermediate level with a basic understanding of body alignment, balance and musicality. May be repeated for a maximum of three credits. One credit.

### **DAN 123 JAZZ III**

Builds on skills learned in DAN 122 and incorporates work at an intermediate/advanced level. Expands on jazz dance technique through more challenging movement combinations. Requires knowledge of the learned basics in dance. May be repeated for a maximum of three credits. One credit.

### **DAN 130 DANCE SAMPLER**

Introduces the beginning dancer to popular dances through a social dance sampler in Salsa, Swing, and Country Western Dance technique, footwork, body posturing, rhythms, and dance floor etiquette. Examines a variety of dances such as Salsa, Mambo, Cha-Cha, Rumba, and Swing's Lindy Hop (jitterbug). One credit.

### **DAN 131 BALLET I**

Introduces the basic techniques of ballet, which are built upon knowledge of ballet terminology, fundamental exercises, and the basic elements of dance. Focuses on movement-oriented dance, comprised of stretching, barre warm-up exercises, simple terre à terre and jumping steps, and basic extended positions. One credit.

### **DAN 141 BALLROOM DANCE**

Introduces the basic terminology, techniques and routines of several dances from a specific country or region. Focuses on the music, costumes and customs related to the dances they study. Partners are not required. May be repeated for a maximum of three credits. One credit.

### **DAN 142 BALLROOM DANCE II**

Continues Dance 141 with focus on regional dances, customs and rhythms. Partners are not required. May be repeated for a maximum of three credits. One credit.

### **DAN 151 BELLY DANCE I**

Presents belly dance - the oldest dance form known to humankind and a celebration of life! Emphasizes developing balance and enables the student to perform a belly dance and learn the history of belly dance and costuming techniques. One credit.

### **DAN 152 BELLY DANCE II**

Continues Belly Dance I (DAN 151) with emphasis on coordination and balance and additional techniques. Includes costume design. Prerequisite(s): None. One credit.

### **DAN 224 DANCE FOR MUSICAL THEATRE I**

Introduces students to dance within the context of musical theatre. Enables the student to practice non-verbal communication and expressive movement techniques. One credit.

## **DPM: DIESEL POWER MACHANICS**

### **DPM 100 INTRODUCTION TO DIESEL**

Focuses on the student identifying and describing the many different types of diesel powered vehicles. Emphasis is placed on being able to research information in maintenance manuals and parts manuals along with demonstration of their abilities in properly identifying and select mechanical fasteners for a particular application. Specific coverage of precision fasteners, fuels, fluids as they relate to the diesel industry. Prerequisite(s): None. Two credits.

### **DPM 101 ORIENTATION**

Focuses on maintaining a safe and clean working heavy duty diesel shop. Emphasis is placed on the proper use and care for land, electric, air and hydraulic tools safely. Covers how to clean equipment properly, to handle and dispose of hazardous materials correctly, and to apply mandated regulations. Emphasis is also place on proper lifting equipment. Prerequisite(s): None. Two credits.

### **DPM 103 DIESEL ENGINES I**

Covers the theory and operation of diesel engines with emphasis on cylinder heads and valve trains diagnosis and repair. Also introduces the cooling system's importance with diagnosis and repair. Enables students to diagnose, test, and repair cylinder heads and cooling systems on diesel engines. Prerequisite(s): ASE 101 and ASE 102, or DPM 100 and DPM 10, and ASE 120 or permission of department. Four credits.

### **DPM 106 DIESEL FUEL SYSTEMS**

Covers the theory of operation and repair of fuel injection systems. Provides laboratory assignments that involve disassembly, assembly, and service procedures on fuel system components. Prerequisite(s): ASE 101 and ASE 102, or DPM 100 and DPM 10, and ASE 120 or permission of department. Three credits.

### **DPM 111 PREVENTATIVE MAINTENANCE I**

Enables the student to perform preventive maintenance on diesel equipment and trucks, and complete appropriate maintenance records. Addresses the process of diagnostics and troubleshooting. Focuses on the importance of preventive maintenance. Prerequisite(s): ASE 101 and ASE 102, or DPM 100 and DPM 10, and ASE 120 or permission of department. Three credits.

### **DPM 210 DIESEL AIR INDUCTION**

Covers the theory of operation and repair of turbochargers, superchargers, intercoolers, and various induction systems. Examines factors regulating engine performance failure, and procedures for reclaiming engine performance. Prerequisite(s): ASE 101 and ASE 102, or DPM 100 and DPM 10, and ASE 120 or permission of department. One credit.

## **ECE: EARLY CHILDHOOD EDUCATION**

### **ECE 100 PRE-LICENSING TRAINING FOR FAMILY CHILD CARE PROVIDERS**

Provides the educational training necessary to meet the hours and categories of training required by the Colorado Department of Human Services to open a licensed child care facility for children age 2-12, with no more than two children under the age of two. Upon completion of 15 hours of training, in the areas listed below, the student will have met the academic training requirements of the Colorado Department of Human Services, needed to open a licensed child care facility for children ages 2-12, with no more than two children under the age of two. One credit.

### **ECE 101 INTRODUCTION TO EARLY CHILDHOOD EDUCATION**

Provides an introduction to Early Childhood Education. Includes the eight key areas of professional knowledge: Child Growth and Development; Health, Nutrition and Safety; Developmentally Appropriate Practices; Guidance; Family and Community Relationships; Diversity; Professionalism; Administration and Supervision. Focuses on ages birth through age eight. Three credits.

### **ECE 102 INTRO TO EARLY CHILDHOOD LAB TECHNIQUES**

Focuses on a classroom seminar and placement in a child care setting. The supervised placement provides the student with the opportunity to observe children, to practice appropriate interactions, and to develop effective guidance and management techniques. Addresses ages birth through age 8. Three credits.

### **ECE 103 GUIDANCE STRATEGIES FOR CHILDREN**

Explores guidance theories, applications, goals, techniques and factors that influence expectations, classroom management issues, and pro-social skills. Addresses ages birth through age 8. Three credits.

### **ECE 111 INFANT/TODDLER THEORY/PRACTICE**

Presents an overview of theories, applications (including observations) and issues pertinent to infant and toddler development in group and/or family settings. Includes state requirements for licensing, health, safety and nutrition issues. Three credits.

### **ECE 112 INTRODUCTION TO INFANT/TODDLER LAB TECHNIQUES**

Includes a classroom seminar and placement in an infant and/or toddler setting. The supervised placement provides the student with the opportunity to observe, to practice appropriate interactions and to develop effective guidance and nurturing techniques with infants and/or toddlers. Addresses ages prenatal through age 2. Prerequisite(s): ECE 211 or permission of Department or instructor. Three credits.

### **ECE 114 EARLY CHILDHOOD ENVIRONMENTAL RATING SCALE**

Provides an introduction to the Early Childhood Environmental Rating Scale Revised. Course content includes basic training on the rating instrument. Topics for discussion include: space and furnishings, personal care routines, language-reasoning, activities, interaction, and program structure. Students will use the rating scale in practical observation to assess quality of an environment for children 2 1/2 through 5 years of age. One credit.

### **ECE 115 INFANT TODDLER ENVIRONMENTAL RATING SCALE**

Introduction to the Infant Toddler Environmental Rating Scale. Course content includes basic training on the rating instrument. Topics of discussion include: furnishings and display for children, personal care routines, listening and talking with young children, learning activities, interaction, and program structure. Students will use the rating scale in practical observation to assess quality of an environment for infants and/or toddlers. One credit.

### **ECE 125 SCIENCE/MATH AND THE YOUNG CHILD**

Examines theories of cognitive development as a framework for conceptualizing the way young children acquire scientific and mathematical skills, concepts, and abilities. Enables students to research and develop appropriate individual and group scientific/mathematical activities for young children. Three credits.

### **ECE 127 MUSIC/MOVEMENT FOR THE YOUNG CHILD**

Focuses on the purposes of incorporating music and movement into the early childhood curriculum. Through active participation with hands-on experiences, students work with the concepts of age and developmental appropriateness when designing fun activities with both subjects. One credit.

### **ECE 145 CREATIVE MATERIALS**

Introduces and develops creative ways to prepare inexpensive materials to enhance the learning of young children. This course includes designing practical uses for recycled and found materials to meet the developmental needs of young children, leading activities with groups of young children, and presenting activities and created materials to colleagues. One credit.

### **ECE 151 EARLY CHILDHOOD EDUCATION LEADERSHIP DEVELOPMENT**

Introduces concepts of leadership as an early childhood professional and provides opportunities to develop leadership skills. This course includes qualities, characteristics, and responsibilities of successful leaders, ethics, advocacy, collaboration, and professional growth. One credit.

### **ECE 175 SPECIAL TOPICS IN ECE**

Explores current topics, issues and activities related to one or more aspects of the early childhood profession. One-half to three credits.

### **ECE 175 OUNCE SCALE TRAINING**

This course discusses various observation techniques to facilitate the completion of the Observation Record and the Developmental Profile portions of the Ounce Scale. Students will discuss ways to involve and support families in enhancing their infant's and toddler's development. One credit.

### **ECE 180 ECE INTERNSHIP**

Focuses on work experience in an early childhood setting. Students will develop skills in planning, implementing and evaluating activities and guiding behaviors of young children. Students will work with the lead teacher and other center staff to create a positive classroom experience. Prerequisite(s): ECE 102 or permission of department or instructor. Five credits.

### **ECE 195 SCHOOL AGED CHILD IN CHILD CARE**

Explores important issues of before and after school care (school holiday and summer day camp), emphasizing child development, health, safety, and appropriate activities for school-age children in the child care setting. Two credits.

### **ECE 205 NUTRITION, HEALTH & SAFETY**

Focuses on nutrition, health, and safety as key factors for optimal growth and development of young children. Content includes nutrient knowledge, menu planning, food program participation, health practices, management and safety, appropriate activities, and communication with families. Course covers prenatal through age 8. Three credits.

### **ECE 211 ADVANCED INFANT & TODDLER THEORY AND PRACTICE**

Explores developmental theories, applications including observations and issues pertinent to infants and toddlers. It examines the needs of children in group and family settings including health, safety, nutrition and licensing requirements for infant/toddler homes and centers. Course covers prenatal through age 2. Prerequisite(s): ECE 111 or permission of department or instructor. Three credits.

### **ECE 220 CURRICULUM DEVELOPMENT: METHODS AND TECHNIQUES**

Provides an overview of early childhood curriculum development. Includes processes for planning and implementing developmentally appropriate environments, materials and experiences, and quality in early childhood programs. Three credits.

### **ECE 226 CREATIVITY AND THE YOUNG CHILD**

Provides an emphasis on encouraging and supporting creative self expression and problem solving skills in children. Explores creative learning theories and research. Focuses on developmentally appropriate curriculum strategies in all developmental domains. Addresses ages birth through age 8. Three credits.

### **ECE 228 LANGUAGE AND LITERACY**

Presents strategies for optimum language development, literacy, social and emotional development. Supports children's language and literacy in home, classroom, and community settings. Provides appropriate teacher/child verbal interactions, classroom environments, and activities. Addresses ages birth through age 8. Three credits.

### **ECE 238 CHILD GROWTH & DEVELOPMENT**

In this course, the student considers the growth and development of the child from conception through the elementary school years. Physical, cognitive, emotional, psychosocial and environmental factors are emphasized. The concept for the whole child and how adults can provide a supportive environment for children is also emphasized. Four credits.

### **ECE 240 ADMINISTRATION OF EARLY CHILDHOOD CARE AND EDUCATION PROGRAMS**

Examines Colorado's minimal licensing requirements, as well as optimal standards pertaining to the operation of programs for young children. Focuses on the director's administrative skills and role as a community advocate for young children. Addresses ages birth through age 12. Three credits.

### **ECE 241 ADMIN: HUMAN RELATIONS FOR ECE**

Focuses on the human relations component of an early childhood professional's responsibilities. Includes director-staff relationships, staff development, leadership strategies, parent-professional partnerships, and community interaction. Prerequisite(s): ECE 101 or permission of department or instructor. Three credits.

### **ECE 261 EXCEPTIONAL CHILD LAB TECHNIQUES (GREAT BEGINNINGS)**

Incorporates a supervised experience in a program serving exceptional children in an inclusive setting. Focuses on the responsibility for planning and implementing developmentally appropriate activities, supporting classroom adaptations and accommodations, practicing appropriate interactions, and developing effective guidance and nurturing techniques. Prerequisite(s): ECE 265 & ECE 238 or permission of department or instructor. Three credits.

### **ECE 265 FIRST START: INCLUDING CHILDREN WITH DISABILITIES**

Covers services for infants, toddlers, and young children with disabilities and chronic conditions. Focuses on strategies, activities, and adaptations that assist with the inclusion of children in childcare and public school programs. Addresses ages birth through age 8. Three credits.

### **ECE 280 ECE INTERNSHIP**

Focuses on work experience in a licensed early childhood care and education program. Prerequisite(s): ECE 180 or permission of department or instructor. Five credits.

## **ECO: ECONOMICS**

### **ECO 101 ECONOMICS OF SOCIAL ISSUES**

Examines the major socio-economic issues of the past century. Covers poverty and growth, education, health care, pollution and discrimination. Three credits.

### **ECO 105 INTRODUCTION TO ECONOMICS**

This course is a survey of economics. It is designed as a beginning economics class. The course covers economics theories, supply and demand, national income accounting, money and banking, market structures and contemporary economic issues. Three credits.

### **ECO 201 PRINCIPLES OF MACROECONOMICS**

Focuses on the study of the American economy, stressing the interrelationships among household, business, and government sectors. Explores saving and investment decisions, unemployment, inflation, national income accounting, taxing and spending policies, the limits of the market and government, public choice theory, the Federal Reserve System, money and banking, and international trade. This course is a state guaranteed transfer course GT-SS1. Three credits.

### **ECO 202 PRINCIPLES OF MICROECONOMICS**

Studies the firm, the nature of cost, and how these relate to the economy as a whole. Analyzes economic models of the consumer, perfect competition, monopoly, oligopoly and monopolistic competition. Explores economic issues including market power, population growth, positive and negative externalities, income distribution, poverty and welfare, discrimination, and international economic interdependence. This course is a state guaranteed transfer course GT-SS1. Three credits.

### **ECO 285 INDEPENDENT STUDY**

(Formerly: ECO 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **EDU: EDUCATION**

### **EDU 175 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Classes are regularly offered on a rotating basis and include courses on the following topics: Developing Capable People, Images fo America: Portrayals of Social Issues, Mentoring and Coaching Strategies in Education. One-half to three credits.

### **EDU 221 INTRODUCTION TO EDUCATION**

Students study the historical, social, political, philosophical, cultural, legal and economic forces that shape the United States public school system as they explore teaching as a career choice. Topics will include current issues of educational reform, technology as it relates to education and considerations related to becoming

a teacher in the state of Colorado. Social interest will be paid to the topic of diversity in the K-12 school system. A field-based classroom experience will be included in this course. Three credits.

### **EDU 231 INTRODUCTION TO BILINGUAL EDUCATION**

Focuses on bilingual and multicultural education with emphasis on the linguistically and culturally diverse learner. Covers historical perspectives, philosophical frameworks, legal implications, subject matter methodologies and current issues which impact bilingual educational programs. Three credits.

### **EDU 232 LITERACY IN THE MULTICULTURAL/ MULTILINGUAL CLASSROOM**

Introduces students to the theories, methods, and techniques for teaching reading and language to children from diverse cultural and linguistic backgrounds. Includes field experience applying coursework with children. Three credits.

### **EDU 233 ENGLISH LANGUAGE LEARNING K-6**

Prepares teachers with strategies to develop English language learners' social and academic English and support their transition to US culture and schools. This course is appropriate in a variety of program models-mainstream classrooms, self-contained ESL classrooms, and bilingual programs and may be adapted for use with pre-service teachers. Three credits.

### **EDU 261 TEACHING, LEARNING AND TECHNOLOGY**

Prepares students to integrate technology into their teaching curriculum. Enables the student to design educational and training materials incorporating instructional technology. Explores a variety of technologies, including the computer, Internet, multimedia, graphics, audio, and text with an emphasis on increasing learning through their use. Examines combining technology with a variety of instructional methodologies. Three credits.

### **EDU 263 TEACHING AND LEARNING ONLINE**

Provides faculty with the knowledge and skills necessary to design, develop, and deliver courses in a distance format. Focuses on assessment and evaluation methods and methods to incorporate interactive, collaborative and expanded learning activities. Three credits.

### **EDU 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Classes are regularly offered on a rotating basis and include courses on the following topic: ADD/ADHD, Blended Learning, Brain-Based Research, Differentiated Instruction, Working with ELL Students, Forty Developmental Assets. One-half to three credits.

## **EIC: ELECTRICITY INDUSTRIAL/ COMMERCIAL**

### **EIC 100 ELECTRICAL CONSTRUCTIONS AND PLANNING**

Introduces the planning of electrical system installations from blueprints to the completed job, preparation of material lists, job sheets and time schedules for various phases of construction. Emphasizes the National Electrical Code. Four credits.

### **EIC 104 BASICS OF INDUSTRIAL ELECTRICITY**

Focuses on resistance, current, voltage and power in AC and DC circuits; measurements; computations of series and parallel circuits; circuit analysis; and troubleshooting with basic test equipment. 1.5 credits.

### **EIC 105 BASICS OF AC & DC ELECTRICITY**

Focuses on resistance, current, voltage and power in AC and DC Circuits; measurements; computations of series and parallel circuits; circuit analysis and troubleshooting with basic test equipment. Four credits.

### **EIC 110 ELECTRICAL INSTALLATIONS I**

Covers residential building wiring in conformance with the current National Electrical Code and local codes using nonmetallic cable. Emphasizes proper use of tools and safety. Four credits.

### **EIC 124 ELECTRICAL SAFETY REQUIREMENTS**

Focuses on training that is 100% practical and deals with every important aspect of OSHA's electrical safety-related work practices and how they apply. Teaches the safe installation and maintenance of electrical equipment. Covers the use of personal protective equipment. One credit.

### **EIC 130 NATIONAL ELECTRICAL CODE 1**

Focuses on the National Electrical Code and local code requirements for electrical installation. Covers chapters one through four of the National Electrical Code. Prerequisite(s): Requires one year field experience in electrical work and high school algebra, or permission of instructor. Four credits.

### **EIC 134 LIFE SAFETY CODE (NFPA 72)**

Addresses new and existing buildings with specific requirements that directly influence the safety of people and protection of property and equipment. Designed for inspectors, managers, engineers, architects, building owners and insurers, manufacturers including fire suppression and alarm systems and others in the building-related field. Prerequisite: None. 1.5 credits.

### **EIC 135 NATIONAL ELECTRICAL CODE II**

Builds on course EIC 130 and covers chapters five through nine of the National Electrical Code, including hazardous locations, special occupancies, conditions and equipment. Prerequisite: Requires one year field experience in electrical work and high school algebra, or permission of instructor. Four credits.

### **EIC 144 GROUNDING AND BONDING**

Prepares the student in the latest technology and techniques available for code and standards-compliant grounding and bonding systems. Focuses on grounding and bonding requirements as they relate to Article 250 and other articles of the NEC. Covers installation, testing and inspection procedures for II power systems. Includes rules to minimize the risk of electricity as a source of electric shock and as an ignition source for fires. 1.5 credits.

### **EIC 160 ELECTRICAL INSTRUMENTS AND MEASUREMENTS**

Covers the proper techniques for using electrical instruments, including volt/ohm, amp, phase rotation, oscilloscopes and recording meters. Focuses on instrument transformers for journeymen and in-plant electricians. Four credits.

## **ELT: ELECTRONICS**

### **ELT 106 FUNDAMENTALS OF DC/AC**

(Formerly: ELT 111 & 112) Introduces the basic skills needed for many careers in electronics and related fields. Covers the operations and applications of basic DC and AC circuits consisting of resistors, capacitors, inductors, transformers and diodes. Emphasizes the use of common test instruments in troubleshooting. Prerequisite(s): MAT 106 or MAT 108 or permission of instructor. Three credits.

### **ELT 112 ADVANCED DC-AC**

(Formerly: ELT 113 & 114) Continues to build on ELT 106 and covers advanced concepts of DC-AC circuits. Includes an expanded treatment of power supplies, dual-supply rectifier circuits, and Zener diode voltage regulators. Emphasizes troubleshooting. Prerequisite(s): ELT 106 with a grade of C or better. Three credits.

### **ELT 113 ADVANCED CIRCUIT ANALYSIS**

(Formerly: ELT 113 & 114) Serves as an advanced course in the analysis of passive AC circuits. Emphasizes the use of complex algebra and network analyses. Prerequisite(s): ELT 112 with a grade of C or better. Four credits.

### **ELT 134 SOLID STATE DEVICES I**

(Formerly: ELT 115) Focuses on diode and transistor studies starting with a review of semiconductor materials. Emphasizes rectifier circuits, R-C and L-C filters, limiters and peak detectors, zener regulators, Schottky diodes, varactors/varistors, LED's bipolar transistors, transistor approximation, load-lines, biasing techniques, saturation, operating point, AC models including small-signal operation, h-parameters, and data sheet understanding and interpolation. Prerequisite(s): ELT 113. Three credits.

### **ELT 135 SOLID STATE DEVICES II**

(Formerly: ELT 116) Continues the study of transistors with an emphasis on application of modern devices to industrial circuits. Includes power amplifiers, Cascaded and Darlington configurations, field-effect devices, JFET's and MOSFET's, depletion and enhancement mode devices, biasing techniques, thyristors, SCR's and variations of the SCR family of devices. Prerequisite(s): ELT 134. Three credits.

### **ELT 137 ADVANCED TRANSISTORS**

(Formerly: ELT 116) Continues ELT 135 with specifications and additional applications of bipolar transistors, JFETs and MOSFETs. Covers voltage regulation, common-collector, and power amplifiers. Includes analyses of single and cascaded amplifier stages. Emphasizes troubleshooting. Prerequisite(s): ELT 135. Three credits.

### **ELT 147 DIGITAL DEVICES I**

(Formerly: ELT 117) Introduces the operation and application of gates, flip-flops, counters, shift registers, encoders-decoders and LED displays. Covers binary numbers, Boolean algebra and troubleshooting. Prerequisite(s): ELT 135. Three credits.

### **ELT 175 SPECIAL TOPICS**

(Formerly: ELT 109) Provides students with a vehicle to pursue in depth exploration of special topics of interest. Six credits.

### **ELT 234 BIO-MEDICAL GENERAL MEDICAL EQUIPMENT SYSTEMS REPAIR**

Focuses on a complete knowledge of clinical applications, theory of operation and circuit analysis of the following medical equipment: Infusion pumps, Ultrasound Therapy Units, Infant incubator systems, Hypo/Hyperthermia units, thermotic suction apparatus, and electrosurgical apparatus. Prerequisite(s): ELT 137, or permission of instructor. Six credits.

### **ELT 238 BIO-MEDICAL: RESPIRATORY EQUIPMENT SYSTEMS REPAIR**

Introduces the student to medical equipment with advanced microprocessor/electronic and pneumatic characteristics, life-supporting respiratory equipment and related test measurement and diagnostic equipment (TMDE). Focuses on the clinical application,

theory of operation and circuit analysis of TMDE. Equipment covered in this course: Volume Pressure Ventilator, Pulmonary Function testers, Respiratory Gas monitors, and Anesthesia systems. Prerequisite(s): ELT 234 or permission of instructor. Six credits.

### **ELT 239 BIO-MEDICAL: CARDIOGRAPHIC DIAGNOSTIC EQUIPMENT SYSTEMS REPAIR**

Focused on the clinical application, theory of operation and circuit analysis of Cardiographic Diagnostic Equipment Systems. Equipment covered in this course: Multichannel Electrocardiographs, Defibrillators, Fetal Heart monitors, Physiological Monitors, and Blood Pressure monitors. Prerequisite(s): ELT 238 or permission of instructor. Six credits.

### **ELT 240 BIO-MEDICAL: CLINICAL LABORATORY SYSTEMS REPAIR**

Focuses on the clinical application, theory of operation and circuit analysis of Clinical Laboratory Systems. Equipment covered in this course: Electrolytic Analyzers, Chemistry Analyzers, Blood Gas Analyzers, Blood Cell Counters, Refrigerated Centrifuges and Microscopes. Prerequisite(s): ELT 239 or permission of instructor. Six credits.

### **ELT 242 BIO-MEDICAL: DIAGNOSTIC IMAGING 1 REPAIR**

Focuses on the clinical application, theory of operation and circuit analysis of Diagnostic Imaging 1 Systems. Equipment covered in this course: Mobile Radiographic units, Dental X-Rays units, and Film Processors. Prerequisite(s): ELT 240 or permission of instructor. Four credits.

## **EMS: EMERGENCY MEDICAL SERVICES**

NOTE: Health related courses are found under the following prefixes: EMS (Emergency Medical Services), HHP (Holistic Health Professional), HPR (Health Professional), HWE (Health and Wellness), MOT (Medical Office Technology), NUA (Nurse Aide), NUR (Nursing), STE (Surgical Technology), (CPR) Continuing Education.

### **EMS 115 FIRST RESPONDER**

Provides the student with core knowledge and skills to function in the capacity of a first responder arriving at the scene of an emergency, providing supportive care until advanced EMS help arrives. Prerequisite(s): Professional level CPR certification. Three credits.

### **EMS 116 FIRST RESPONDER REFRESHER**

Provides the First Responder student with needed updates and review materials to renew and maintain the First Responder certificate. Prerequisite(s): Professional level CPR. Two credits.

### **EMS 125 EMT BASIC**

Enables the student after successful completion of this course to take the EMT Certification Examination subject to the requirements of the Colorado Department of Health and Environment. Includes written and practical examinations. Student must be at least 18 years of age. Co-requisite: EMS 170, appropriate vaccinations, current background check and drug screen required. Nine credits.

### **EMS 126 EMT BASIC REFRESHER**

Provides required didactic and skills review for renewing EMT students. Accommodates the needs of the re-entry EMT student. Prerequisite(s): Current CPR and EMT Basic - current or less than 6 months expired or permission of instructor. Three credits.

### **EMS 130 EMT INTRAVENOUS THERAPY**

Focuses on cognitive and skill practice as required by Colorado Pre-hospital Care program for EMT Basic level IV approval. Examines criteria, procedures and techniques for ICV therapy, discusses fluid and electrolyte balance and principles and treatment for shock. Prerequisite(s): Restricted to current EMT Basic/CPR-Appropriate vaccination records, current background check and drug screen. Two credits.

### **EMS 136 EMT/PARAMEDIC SAFETY ISSUES IN THE FIELD**

Provides EMTs and paramedics with the skills needed to quickly assess the scene for potential hazards to themselves. Introduces topics on scene safety, evaluation of potential problem patients, verbal communication control techniques, physical control techniques for the problem patient, and scene control techniques. One credit.

### **EMS 150 PEDIATRIC EDUCATION FOR PREHOSPITAL PROFESSIONALS**

Provides the student with core knowledge and skills necessary to provide emergency care to the pediatric patient. Restricted to certified EMTs. One credit.

### **EMS 152 WELLNESS FOR THE EMERGENCY SERVICES**

Offers the EMS provider methods for coping with stress in the workplace and educates pre-hospital providers on finding additional options to reduce stress and make wise choices in the midst of difficult situations. Prerequisite(s): Permission of instructor. One credit.

### **EMS 153 ADVANCED PATIENT ASSESSMENT AND HISTORY TAKING**

Teaches the pre-hospital health care provide techniques in assessing the patient - both medical and trauma. Covers history taking, documentation, communication and assessment techniques for the special patient. Two credits.

### **EMS 170 EMT BASIC CLINICAL**

Provides the EMT student with the clinical experience required of initial and some renewal processes. Prerequisite(s): EMT Basic initial or renewal students or permission of instructor. One credit.

### **EMS 178 EMS SEMINAR**

Provides the student with the opportunity to explore local interests and needs in a less formal setting. Prerequisite(s): Restricted to certified EMTs. One-half to six credits.

### **EMS 180 EMT CLINICAL INTERNSHIP**

(Formerly: EMS 134) Provides the Emergency Medical Technician (EMT) with a supervised clinical learning experience that goes beyond the initial EMT requirements for the State of Colorado Department of Health. Enables the student to work with an assigned preceptor for 90 hours of clinical experience to develop an understanding of the role and responsibilities of the EMT-Basic. Prerequisite(s): Restricted to EMT B and I - Department Majors only or permission of Instructor. Two to three credits.

### **EMS 185 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Prerequisite(s): Restricted to certified EMTs, permission of Instructor. One to six credits.

### **EMS 203 EMT INTERMEDIATE I**

(Formerly: EMS 204) Course provides preparatory information and is the first part of the EMT Intermediate program. Prerequisite(s): Current EMT Basic - EMS 130, HPR 190, appropriate vaccinations, current background check and drug screen. Six credits.

### **EMS 205 EMT INTERMEDIATE II**

Serves as the second course for EMT Intermediate certification. Prerequisite(s): EMS 203. Six credits.

### **EMS 225 FUNDAMENTAL OF PARAMEDIC PRACTICE**

Serves as the first course of the National Standard paramedic Curriculum as approved by the Colorado State Department of Health and Environment. Prerequisite(s): Contact a department advisor for an application packet. Three credits.

### **EMS 226 FUNDAMENTAL OF PARAMEDIC PRACTICE LAB**

Serves as the lab experience to coincide with EMS 225 topics. Two credits.

### **EMS 227 PARAMEDIC CONSIDERATIONS**

Focuses on a comprehensive study of Advanced Life Support Practice. Three credits.

### **EMS 228 PARAMEDIC CONSIDERATIONS LAB**

Serves as the lab experience for those students enrolled in EMS 227. Two credits.

### **EMS 229 PARAMEDIC PHARMACOLOGY**

Focuses on a comprehensive study of emergency pharmacology. Three credits.

### **EMS 230 PARAMEDIC PHARMACOLOGY LAB**

Serves as the required lab course in the paramedic education program for EMS 229. Two credits.

### **EMS 231 PARAMEDIC CARDIOLOGY**

Addresses cardiology topics as presented in the National Standard Curriculum for paramedics. Five credits.

### **EMS 232 PARAMEDIC CARDIOLOGY LAB**

Incorporates a hands-on application of principles of cardiac care in the hospital environment. One credit.

### **EMS 233 PARAMEDIC MEDICAL EMERGENCIES**

Focuses on a comprehensive study of adult medical emergencies. Four credits.

### **EMS 234 PARAMEDIC MEDICAL EMERGENCIES LAB**

Focuses on a clinical study of adult a pediatric medical emergencies. One credit.

### **EMS 235 PARAMEDIC TRAUMA EMERGENCIES**

Focuses on a comprehensive study of adult and pediatric trauma emergencies. Four credits.

### **EMS 236 PARAMEDIC TRAUMA EMERGENCIES LAB**

Serves as a lab presenting various acute trauma scenarios. One credit.

### **EMS 237 PARAMEDIC INTERNSHIP PREPARATORY**

Reviews concepts and techniques used in the prehospital setting. Two credits.

### **EMS 270 CLINICAL: EMS INTERMEDIATE**

### **EMS 273 PARAMEDIC CLINICAL**

Students will participate in clinical rotations at local hospitals where they will apply the Advanced Life Support skills taught in the related didactic courses. One-twelve credits.

### **EMS 280 PARAMEDIC INTERNSHIP I**

Serves as the preceptor/internship program for paramedic students. One-twelve credits.

### **EMS 281 PARAMEDIC INTERNSHIP II**

Serves as the continuation of EMS 280, preceptor program for paramedic students. One-twelve credits.

## **ENG: ENGLISH**

**\*This course will not satisfy minimum nor elective requirements for associate degrees.**

### **\*ENG 030 BASIC WRITING SKILLS**

Focuses on sentence and basic paragraph structure and development. Enables the student to review and improve grammar, usage, and punctuation skills while employing critical thinking strategies and the writing process to respond to a wide variety of writing situations. Prerequisite(s): Placement test. Students must pass both the exit essay and earn a grade of C or better in ENG 030 for placement into ENG 060. Two credits.

### **\*ENG 060 WRITING FUNDAMENTALS**

Focuses on paragraph structure and development and introduces the formal essay. Enables the student to review and improve grammar, usage, and punctuation skills while employing critical thinking strategies and the writing process to respond to a wide variety of writing situations. Prerequisite(s): Eng 030 with a grade of C or better or placement test. Students must pass both the exit essay and earn a grade of C or better in ENG 060 for placement into ENG 090. Three credits.

### **\*ENG 090 BASIC COMPOSITION**

Emphasizes critical thinking as students explore writing for specific purposes and audiences. Enables the student to develop skills required for college-level writing while reviewing paragraph structure and focusing on essay development. Grammar review is a significant component of the course. Proficiency in essay writing and competence in language skills are required for a passing grade, and students must earn a C or better in ENG 090 before they will be admitted to ENG 121. NOTE: ENG 090 is a non-transferable course. Prerequisite: ENG 060 with a grade of C or better or placement test. No exceptions to course prerequisite will be allowed. Three credits.

### **ENG 121 ENGLISH COMPOSITION 1**

Emphasizes the planning, writing, and revising of compositions, including the development of critical and logical thinking skills. This course includes a minimum of five compositions that stress analytical, evaluative, and persuasive/argumentative writing. Proficiency in essay writing is required for a passing grade, and students must have a C or better in ENG 121 before they will be admitted to ENG 122. Keyboarding skills required. This course is a state guaranteed transfer course GT-CO1. Prerequisite(s): REA 090 or REA 100 & ENG 090 with a grade of C or better or placement test. No exceptions to course prerequisite will be allowed. Three credits.

### **ENG 122 ENGLISH COMPOSITION II**

Expands and refines the objectives of English Composition I. Emphasizes critical/logical thinking and reading, problem definition, research strategies, and writing analytical, argument papers that incorporate research. This course is a state guaranteed transfer course GT-CO2. Prerequisite(s): ENG 121 with a grade of C or better. No exceptions to course prerequisite will be allowed. Three credits.

### **ENG 131 TECHNICAL WRITING I**

Develops skills one can apply to a variety of technical documents. Focuses on principles for organizing, writing, and revising clear, readable documents for industry, business, and government. Prerequisite(s): ENG 121. Three credits.

### **ENG 178 SEMINAR/WORKSHOP**

(Formerly: ENG 227) Provides students with an experiential learning experience using the seminar/workshop format. Each course is designed with specific outcomes based on specific activities. Zero to six credits.

### **ENG 221 CREATIVE WRITING I**

Teaches techniques for creative writing. Explores imaginative uses of language through creative genres (fiction, poetry, literary nonfiction) with emphasis on the student's own unique style, subject matter and needs. Three credits.

### **ENG 222 CREATIVE WRITING II**

Provides continued development of written expression in such forms as poetry, fiction, and/or nonfiction writing. Prerequisite(s): ENG 221 with a grade of C or better or permission of instructor. Three credits.

### **ENG 278 SEMINAR/WORKSHOP**

(Formerly: ENG 228) A continuation of ENG 178. Provides students with an experiential learning experience using the seminar/workshop format. Each course is designed with specific outcomes based on specific activities. Zero to six credits.

### **ENG 285 INDEPENDENT STUDY**

(Formerly: ENG 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One credit.

## **ENT: ENGINEERING TECHNOLOGY**

### **ENT 106 PRINT READING FOR MANUFACTURING**

Focuses on blueprint reading techniques related to manufacturing operations. Covers basic drafting standards, sketching, machine shop math, symbol interpretation, tolerancing, and dimensioning standards. Prerequisite(s): None. Three credits.

### **ENT 142 SURVEYING II**

Introduces topographic and land surveying. Covers advanced construction surveying techniques including curves, grades, and slope staking. Addresses use and care of theodolites and electronic total station equipment. Prerequisite(s): MAT 108 or MAT 121. Four credits.

### **ENT 146 CONSTRUCTION MATERIALS & METHODS**

Focuses on basic knowledge of construction materials, how they are manufactured, and their application in light commercial and industrial structures. Prerequisite(s): None. Three credits.

### **ENT 155 MANUFACTURING TECHNOLOGY I**

Focuses on contemporary manufacturing organization, methods, and processes involved in converting raw materials into finished products. Prerequisite(s): None. Three credits.

### **ENT 207 CONSTRUCTION METHODS, PLANNING & EQUIPMENT**

Focuses on the study of various construction methods and techniques, value engineering, types of equipment and safety. Prerequisite(s): None. Two credits.

## ENT 210 SOIL MECHANICS

Emphasizes basic principles of soil mechanics and proper testing procedures as they relate to construction. Co-requisite(s): ENT 215. Prerequisite(s): MAT 108 or MAT 121. Two credits.

## ENT 215 SOILS LAB

Introducing students to soils, and the testing of soils, is the purpose of this course. Determination and verification of soil characteristics create decisions about foundation size and type and are therefore extremely important for construction management students. Co-requisite(s): ENT 210. One credit.

## ENT 236 ELECTRONIC DRAFTING

Schematics, printed circuit board layouts, symbols, and wiring diagrams will be produced on CAD workstation; terminology and the manufacturing process of printed circuit boards will be covered. Prerequisite(s): None. Three credits.

## ENT 275 SPECIAL TOPICS

Allows flexible utilization and covers specific topics and current issues in the Engineering Technology field. Includes "as-needed" for credit appropriate to the topic(s) selected. Each individual offering of this course includes a complete description of the topic(s) selected in a course syllabus unique to that particular offering. Prerequisite(s): Permission of instructor. Five credits.

## ENY: ENERGY TECHNOLOGY

### ENY 153 RENEWABLE ENERGY CONSTRUCTION

Introduces solar construction techniques, terminology and construction materials in detail. Covers moisture and air quality in tight construction as well as an overview of the building shell and interior walls. Four credits.

### ENY 205 GREEN & SUSTAINABLE BUILDINGS

Allows students to understand sustainable design including building design, Leadership in Energy and Environmental Design (LEED) certification and building auditing. Topics include green building, passive thermal architecture, super installation, tight envelopes, renewable energy sources for heating, cooling and electrical power. Four credits.

## ETH: ETHNIC STUDIES

### ETH 106 HISPANIC JOURNEY INDIO-CHICANO

Provides the student with an opportunity to dialogue on the intersection of cultures of the indigenous peoples, Mexicans and Anglos. Explores the change in culture through the northward migration of people as they remain committed to their culture. Emphasizes the sensitivity to cultural prejudice and stereotypes. Three credits.

### ETH 200 INTRODUCTION TO ETHNIC STUDIES

Introduces students to the issues of race and ethnicity. Emphasizes ethnic relations in the United States as it pertains to four major groups: Americans of African, Asian, Latino and Native descent. Explores issues of racial and ethnic identity, racism and discrimination, stereotyping, prejudice, segregation, colonialism, integration and acculturation. Three credits.

### ETH 212 AFRICAN AMERICAN STUDIES

Explores in-depth introduction of Africans to the colonies and historical developments through modern-day America. Focuses on the decisions and choices which have impacted African-Americans through contemporary times. Three credits.

## ETH 224 INTRODUCTION TO CHICANO STUDIES

Introduces students to skills development in multicultural education. Covers Chicano history, migration and labor, education, law and Chicano culture. Three credits.

## ETH 275 SPECIAL TOPICS

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

## FRE: FRENCH

NOTE: World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHE (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

### FRE 101 CONVERSATIONAL FRENCH I

Introduces beginning students to conversational French and focuses on understanding and speaking French. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

### FRE 102 CONVERSATIONAL FRENCH II

Continues the sequence for beginning students who wish to understand and speak French. Covers basic conversational patterns, expressions, and grammar. Prerequisite(s): FRE 101 or permission of instructor. Three credits.

### FRE 111 FRENCH LANGUAGE I

(Formerly: FRE 111 & FRE 112) Begins a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the French language. Five credits.

### FRE 112 FRENCH LANGUAGE II

(Formerly: FRE 112 & FRE 113) Continues French I in the development of functional proficiency in listening, speaking, reading and writing the French language. Prerequisite(s): FRE 111 with a grade of C or better or permission of instructor. Five credits.

### FRE 211 FRENCH LANGUAGE III

(Formerly: FRE 211 & FRE 212) Continues French I and II in the development of increased functional proficiency in listening, speaking, reading and writing the French language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): FRE 112 with a grade of C or better or permission of instructor. This course is a state guaranteed general education course GT-AH4. Three credits.

### FRE 212 FRENCH LANGUAGE IV

(Formerly: FRE 212 & FRE 213) Continues French I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the French language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): FRE 211 with a grade of C or better or permission of instructor. This course is a state guaranteed general education course GT-AH4. Three credits.

## FRE 275 SPECIAL TOPICS

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One-half to six credits.

### FRE 285 INDEPENDENT STUDY

(Formerly: FRE 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **FST: FIRE SCIENCE**

### **FST 100 FIREFIGHTER I**

Addresses the requirements necessary to perform at the first level of progression as identified on National Fire Protection Association (NFPA) 1001, Firefighter Professional Qualifications. This is a lecture and lab course for meeting the NFPA 1001, Level I, standard. Prerequisite(s): Professional level CPR certification. Nine credits.

### **FST 101 FIREFIGHTER II**

Addresses the requirements necessary to perform at the second level of progression as identified in NFPA 1001, level II Fire Fighter Professional Qualifications. Prerequisite(s): Current Firefighter I Certification. Six credits.

### **FST 102 PRINCIPLES OF EMERGENCY SERVICES**

Introduces the fire service organization and operation from past to present operations. Includes operation and organization of federal, state, local and private protection forces. Emphasizes extinguishing methods and equipment, special extinguishing agents, and special hazard considerations. Serves as a prerequisite for students having no previous fire suppression training or experience. Three credits.

### **FST 103 OCCUPATIONAL HEALTH AND SAFETY**

Focuses on on-scene and on-the-job firefighter health, safety and fitness, the safety officer, mental well-being, stress management, and standards related to health, safety and fitness. Three credits.

### **FST 104 FIRE PROTECTION SYSTEMS**

Addresses principles and functions involved in the installation and use of sprinkler systems, special suppression systems, and fire detection and alarm systems. Covers portable fire extinguishing equipment requirements, sprinkler systems, installation, inspection and maintenance, special protection systems, and residential sprinklers. Three credits.

### **FST 105 BUILDING CONSTRUCTION FOR FIRE PROTECTION**

Covers various methods of building construction, the materials used in building construction, and their relationship to methods of fire attack and extinguishments. Includes types of building construction, principles of fire resistance, flame spread, smoke and fire containment, basic knowledge of plan review, and blueprint specifications. Prerequisite(s): None. Three credits.

### **FST 106 FIRE PREVENTION**

Introduces the organization of the fire prevention agency; inspections, surveying, mapping and company inspections; recognition of fire hazards; engineering a solution to the hazard, enforcement of the solution, and public relations as affected by fire prevention. Fire Inspector I State Certificate available. Prerequisite(s): FST 105. Three credits.

### **FST 107 HAZARDOUS MATERIALS OPERATIONS (LEVEL I)**

Introduces hazardous materials incidents, recognizing and identifying hazardous materials, planning response, implementing response procedures, decision making, and continued evaluation at the awareness and operation level. Prerequisite(s): None. Three credits.

### **FST 110 JOB PLACEMENT AND ASSESSMENT**

Addresses all aspects of the Fire Service entrance examination process and especially emphasizes various components of the exam, including the written, physical abilities, and oral interview. The objective of this class is to help increase the entrance firefighter candidate's chance of obtaining a career in the Fire Service. Prerequisite(s): None. Three credits.

### **FST 126 VEHICLE EXTRICATION AWARENESS LEVEL**

Provides the student with the basic knowledge and skills to safely operate at the scene of a vehicle/machinery extrication. This level represents the minimum capability of a responder who, in the course of his or her regular job duties, could be called upon to respond to, or could be the first on scene of, a technical rescue incident. This level can involve search, rescue, and recovery operations. Members of a team at this level are generally not considered rescuers. Prerequisite(s): None. One credit.

### **FST 127 VEHICLE EXTRICATION OPERATIONS LEVEL**

Provides the student with the knowledge and skills to safely operate at the scene of a vehicle/machinery extrication. This level represents the second highest level of operation at the rescue scene involving vehicle extrication. Students shall be capable of hazard recognition, equipment use, and techniques necessary to operate safely and effectively at incidents involving persons injured or entrapped in a vehicle or machinery. Members of a team at this level are generally considered rescuers. Prerequisite(s): FST 126. Two credits.

### **FST 128 VEHICLE EXTRICATION TECHNICIAN LEVEL**

Provides the student with the knowledge and skills to safely operate at the scene of a vehicle/machinery extrication. This level represents the highest level of operation at the rescue scene involving vehicle extrication. Students shall be capable of hazard recognition, equipment use, and techniques necessary to operate and effectively supervise at incidents involving persons injured or entrapped in a vehicle or machinery. Members of a team at this level are considered rescuers. Prerequisite(s): FST 127. Three credits.

### **FST 150 INTRODUCTION TO FIRE PREVENTION EDUCATION**

Focuses on conducting prevention and education needs assessment, targeting audiences; development and delivery of prevention and education programs. Includes methods of conducting fire prevention and safety inspections. Three credits.

### **FST 151 DRIVER-OPERATOR**

Provides the student with the basic knowledge and skills to safely operate fire apparatus according to the NFPA professional standard. Enables the student to display and demonstrate knowledge of fire apparatus, operation of apparatus, pumps and pumping, hydraulics calculations, maintenance and testing. Prerequisite(s): FST 100. Three credits.

### **FST 175 SPECIAL TOPIC**

Offers foundational (100 level) and advanced (200 level) classes in the fire service field that do not fall under the standard curriculum. Includes seminar classes or prior learning credit portfolio classes that apply to fire electives. Includes National Fire Academy courses, NFPA courses, and local seminars and other professional courses and certifications. Prerequisite(s): Permission of instructor. One-half to six credits.

### **FST 191 DEPARTMENTAL COMMUNICATIONS**

Assists the company officer in improving communication skills. Addresses oral and written skills by utilizing leaderless group exercises, simulated interviews, and other written exercises. One credit.

### **FST 201 INSTRUCTIONAL METHODOLOGY**

Covers the role and responsibility of the fire service instructor. Includes oral communication skills, concepts of learning, planning and development of lesson plans, instructional materials and delivery methods, testing and evaluations, records and reports, and demonstration of instructional abilities. Fire Instructor I State Certificate is available. Three credits.

### **FST 202 STRATEGY AND TACTICS**

Firefighting strategy and tactics, methods of fire attack, fire behavior, building construction, and pre-fire planning. Prerequisite(s): FST 100. Three credits.

### **FST 203 FIRE PROTECTION HYDRAULICS & WATER SUPPLY**

Covers hydraulic calculations that are necessary in water delivery and supply for fire suppression; hydraulic laws and formulas as applied to fire protection requirements, and fire apparatus UL requirements. Prerequisite(s): FST 151. Four credits.

### **FST 204 PRINCIPLES OF CODE ENFORCEMENT**

Covers familiarization and interpretation of national, state and local codes, ordinances and laws which influence the field of fire prevention. Fire code and life safety code are reviewed and referred to throughout the course. Prerequisite(s): FST 100, FST 106. Three credits.

### **FST 205 FIRE INVESTIGATION I**

Covers the proper method(s) of conducting basic fire investigation, determining area and point of origin, cause and methods of fire spread, recognition and preservation of evidence. Includes arson law, Constitutional law, interviewing, court procedures and testimony. Prerequisite(s): FST 100. Three credits.

### **FST 206 FIRE COMPANY SUPERVISION AND LEADERSHIP (FIRE OFFICER I)**

Covers fire department organization, management philosophies, leadership traits, time management, group dynamics, communications, motivation counseling, conflict resolution, and employee discipline. Meets components of Fire Officer I State Certificate. Prerequisite(s): FST 100. Three credits.

### **FST 207 FIREFIGHTING STRATEGY AND TACTICS II**

Focuses on tactics and strategies associated with transportation emergencies and fires, high-rise fires, below-ground incidents, confined space emergencies, and special rescue situations. Prerequisite(s): FST 202. Three credits.

### **FST 208 FIRE PLANS REVIEW AND ACCEPTANCE TESTING**

Instructs the student on how to review building plans submitted to a fire department, acceptance testing procedures, implementation of a fire inspection program, and how to deal effectively with the public for fire prevention and education activities. Prerequisite(s): FST 106, FST 204. Two credits.

### **FST 251 LEGAL ASPECTS OF THE EMERGENCY SERVICES**

Provides the professional fire officer with detailed information on federal, state and local laws, ordinances, and civil and criminal liabilities that impact the fire service. Includes the OSHA and NFPA standards in-depth, as well as pensions, Workman's Compensation, drug testing, union bargaining agreements and other topics. Three credits.

### **FST 252 FIRE INVESTIGATION II**

Studies cause and origin as related to arson fires; evidence preservation and chain of evidence; interviewing; giving testimony; and laws associated with fire and arson investigation, records and reports. Prerequisite(s): FST 100. Three credits.

### **FST 253 THE NATIONAL INCIDENT MANAGEMENT SYSTEM**

Focuses on fire ground management, resource availability, management and deployment, Integrated Management System and all related components, communications, problem solving, and table top exercises. Three credits.

### **FST 255 FIRE SERVICE MANAGEMENT**

Serves as the basic management course for present and potential members of the fire service, and for students and members of other fire science-related professions. Introduces the student to current management practices and philosophies and real-world applications from the supervisor's point of view. Covers decision making/problem solving, communication skills, conflict resolution, creativity and innovation, as well as the role of the manager in supervising personnel and programs, e.g., motivation, leadership, counseling, ethics, and handling discipline and grievances. Three credits.

### **FST 256 FIRE SERVICE EMS MANAGEMENT**

Addresses budgeting, staffing, training, and equipment issues; transportation, standard of care, and protocols; operations, communications, incident and disaster management, and legal issues associated with EMS operations. Prerequisite(s): FST 100. Three credits.

### **FST 257 FIRE DEPARTMENT ADMINISTRATION**

Focuses on the operations of volunteer and combination fire departments, compliance with standards and ordinances, funding, recruiting, hiring and retaining employees, funding and budgeting, organizational planning and public relations. Three credits.

### **FST 258 WILDLAND FIRE INCIDENT MANAGEMENT AND ORG.**

Introduces and develops supervisory and decision-making skills for fire-line management individuals. Covers (1) First Attack Incident Commander, (2) Crew Supervisor, (3) Incident Commander Multi-resource, and (4) Task Force/Strike Team Leader. All four courses are certifiable by the Incident Command System under NIIMS and recognized by the National Wildfire Coordinating Group. Covers fire-line safety, size-up, incident planning, ordering, tactics, strategies, and administrative duties. Three credits.

### **FST 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest not previously offered. Includes National Fire Academy courses, VFIS courses, NFPA certification courses or other special subject classes that do not fall under the standard FST curriculum. Prerequisite(s): Permission of Instructor. One to four credits.

### **FST 280 INTERNSHIP**

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. Prerequisite(s): FST 100, EMS 103, EMS 115. One to six credits.

### **FST 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Prerequisite(s): Permission of Instructor. One to six credits.

## **FSW: FIRE SCIENCE: WILDLAND**

### **FSW 100 S-190 INTRODUCTION TO WILDLAND FIRE BEHAVIOR**

Provides instruction in the primary environmental factors that affect the start and spread of wildfire and recognition of potentially hazardous situations. This course can be taught in conjunction with or prior to Firefighting Training S-130. One credit.

### **FSW 101 S-130 FIREFIGHTING TRAINING**

Provides entry-level firefighter skills. A version of the L-180, Human Factors on the Fireline, is included as part of the course. Credit should be issued for S-130. Two credits.

### **FSW 102 S-131 FIREFIGHTER TYPE I**

Designed to meet the training needs of the Firefighter Type I. It contains several tactical decision modules designed to facilitate learning the objectives and class discussion. This course is designed to be interactive in nature. Topics include fireline reference materials, communications, and tactical decision making. One-half credit.

### **FSW 103 D-110 DISPATCH RECORDER WITH INTRO TO ROSS**

Trains potential dispatch recorders on the structure of an expanded dispatch organization and how to effectively perform within that organization. Course will provide the student with a working knowledge of the purpose and process of completing the resource order and other dispatch forms. It will also provide instruction on established dispatch procedures. One credit.

### **FSW 104 I-100 INTRODUCTION TO ICS**

Address the ICS organization basic terminology, and common responsibilities. It provides a foundation upon which to enable entry-level personnel to function appropriately in the performance of incident-related duties. For students continuing through more complex ICS modules, this course may be used as pre-course work. One-fourth credit.

### **FSW 105 L-180 HUMAN FACTORS ON THE FIRE LINE**

Designed for unit-level supervisors to use when delivering orientation training to new crew-members. Presentation of the course involves a few short lecture segments, but the primary content is delivered by video and is supported with the small group exercises. Topics include: situation awareness, basic communication responsibilities, attitude and stress barriers, decision-making processes, and teamwork principles. One-fourth credit.

### **FSW 140 S-200 INITIAL ATTACK INCIDENT COMMANDER**

Designed to meet the training needs of the ICT4. It is presented in a lecture/discussion format and supplemented with group exercises. The six instructional units cover: Readiness and Mobilization; Size-up, Planning, and Ordering; Deployment and Containment; Administrative Requirements; and Post-Fire Evaluation. One credit.

### **FSW 141 S-203 INTRODUCTION TO INCIDENT INFORMATION**

Provides students with the knowledge and skills they need to serve as type 3 information officers (IOF3). It touches on virtually all aspects of establishing and maintaining an incident information operation, communication with internal and external audiences to handling special situations. Two credits.

### **FSW 142 S-211 PORTABLE PUMPS AND WATER USE**

Consists of three areas – supply, delivery, and application of water. Students will be required to demonstrate their knowledge of correct water use, basic hydraulics, and equipment care. The module requires set up, operation, and maintenance of pump equipment. To receive credit for this course, students must have modules observed and approved. One and one-half credits.

### **FSW 143 S-212 WILDFIRE CHAIN SAWS**

Provides introduction to the function, maintenance and use of internal combustion, engine-powered chain saws and their tactical wildland fire application. Modules support entry-level training

for firefighters with little or no previous experience in operating a chain saw and provides hands-on cutting in surroundings similar to fireline situations. Two credits.

### **FSW 144 S-215 FIRE OPERATIONS IN THE WILDLAND/URBAN INTERFACE**

Designed to assist structure and wildland firefighters who will be making tactical decisions when confronting wildland fire that threatens life, property, and improvements in the wildland/urban interface. Instructional units include interface awareness, size up, initial strategy and incident action plan, structure triage, structure protection tactics, incident action plan assessment and update, follow up and public relations, and firefighter safety in the interface. Two credits.

### **FSW 145 S-230 CREW BOSS**

Designed to produce student proficiency in the performance of duties associated with the single-resource boss position from initial dispatch through demobilization to the home unit. Topics include operational leadership, preparation and mobilization, assignment preparation, risk management, entrapment avoidance, safety and tactics, offline duties, demobilization and post-incident responsibilities. One and one-half credits.

### **FSW 146 S-231 ENGINE BOSS (SINGLE RESOURCE)**

Designed to produce student proficiency in the performance of the duties associated with engine boss, single resource (ENGB). Topics include engine and crew capabilities and limitations, information sources, fire size up considerations, tactics and wildland/urban interface. One credit.

### **FSW 147 S-234 IGNITION OPERATIONS**

Provides training in the functional roles and responsibilities connected with firing operations. The course covers planning, ignition procedures and techniques, and equipment applicable to wildland and prescribed fire. This course also addresses the role of the ignition specialist or firing boss as the organization manages escalation from a non-complex to a complex situation. Two credits.

### **FSW 148 S-248 STATUS/CHECK-IN RECORDER**

Designed to introduce students to the tools and techniques used to perform the duties of status check-in recorder (SCKN). The course provides an overview of what a student can expect if dispatched to an incident. Each student will need access to a computer that has the most current incident automation software (currently I-Suite). One credit.

### **FSW 149 S-260 INTERAGENCY INCIDENT BUSINESS MANAGEMENT**

Designed to meet the general training needs of all positions for which an understanding of interagency incident business management is required. The Interagency Incident Business Management Handbook, PMS 902, is used as the primary job aid to supplement this course. It provides the basic policy and direction for incident business management. One credit.

### **FSW 150 S-261 APPLIED INTERAGENCY INCIDENT BUSINESS**

Designed for entry-level finance positions. It is designed to be taken after completion of Interagency Business Management (S-260). One credit.

### **FSW 151 S-270 BASIC AIR OPERATIONS**

Covers aircraft types and capabilities, aviation management and safety for flying in and working with agency aircraft, tactical and logistical uses of aircraft, and requirements for helicopter take-off and landing areas. One credit.

### **FSW 152 S-271 HELICOPTER CREW MEMBER**

Provide student proficiency in all areas of the tactical and logistical use of helicopters to achieve efficiency and standardization. Topics include: aviation safety, aircraft capabilities and limitations, aviation life support equipment, aviation mishap reporting, pre-flight checklist and briefing/debriefing, aviations transportation of hazardous materials, crash survival, helicopter operations, helicopter field exercise. This course contains the following OAS modules: A-101, A-105, A-106, A-108, A-110, A-113, A-209, and A-210.

### **FSW 153 SO-290 INTERMEDIATE WILDLAND FIRE BEHAVIOR**

Designed to prepare the prospective supervisor to undertake safe and effective fire management operations. Two credits.

### **FSW 154 WILDLAND FIRE ORIGIN AND CAUSE DETERMINATION**

Provide a consistent knowledge and skill base for the Wildland Fire Origin and Cause Determination Investigator (INVF). The concepts taught in this course will help an INVF perform at an acceptable level on a national basis without regard to geographic boundaries. The course is presented by lecture, electronic presentations, field exercises, and class discussion. Two and one-half credits.

### **FSW 155 I-200, IS-200, Q-436 BASIC ICS: ICS FOR SINGLE RESOURCES AND INITIAL ACTON INCIDENT**

Introduce students to the principles of the Incident Command System (ICS) associated with incident-related performance. Topics include leadership and management, delegation of authority and management by objectives, functional areas and positions, briefings, organizational flexibility, transitions and transfers. This course was developed in conjunction with the US Fire Administration (Q-463) and the Emergency Management Institute (IS-200). These courses are built on the same lesson objectives and content as the NWCG I-200 course and are interchangeable; they are all National Incident Management System (NIMS) compliant. One and one-half credits.

### **FSW 156 L-280 FOLLOWERSHIP/LEADERSHIP**

Combines one day of instruction followed by a second day with students working through a series of problem-solving events. This course is for individuals preparing to step into a leadership role. Topics include: leadership values and principles, transition challenges for new leaders, situational leadership, team cohesion factors, and ethical decision-making. One credit.

### **FSW 200 S-300 EXTENDED ATTACK INCIDENT COMMANDER**

Designed to meet the training methods of the incident commander type 3 (CT3). The six instructional units cover Information Gathering, Planning, Supporting Organization, Operations, Transitioning, and Demobilization/Administrative Requirement. One credit.

### **FSW 201 S-330 TASK FORCE/STRIKE TEAM LEADER**

Designed to meet the training requirements outlined in the Wildland Fire Qualification System Guide and the Positions Task Books (PTB) developed for the positions of Task Force Leaders and Strike Team Leader. Examples and exercises in this package are specific to wildland fire suppression. One and one-half credits.

### **FSW 202 S-336 TACTICAL DECISION MAKING IN WILDLAND FIRE**

Designed to meet training requirements in the Operations Section of the Incident Command System. Examples and exercises in this package are specific to wildland fire suppression. Two credits.

### **FSW 203 S-339 DIVISION/GROUP SUPERVISOR**

Prepares the student to perform in the role of division /group supervisor. It will provide instruction in the support of the specific tasks of division/group supervisor. Topics include division/group management, organizational interaction, and division operations. One credit.

### **FSW 204 S-359 MEDICAL UNIT LEADER**

Designed to provide the skills and knowledge needed to perform in the role of medical unit leader. (MEDL). Topics include gathering information, organizing, supervising, evaluating, documenting, and demobilizing the medical unit. One credit.

### **FSW 205 S-390 INTRODUCTION TO FIRE BEHAVIOR CALCULATIONS**

Develop knowledge and skills required for effective fire behavior prediction. This course introduces fire behavior calculations by manual methods, using nomograms. The student gains an understanding of the determinants of fire behavior through studying input (wind, slope, fuels, and fuel moisture.) Students also learn how to interpret fire behavior output. Local and regional environmental differences are stressed. Two credits.

### **FSW 206 I-300 INTERMEDIATE ICS FOR SUPERVISORS AND EXPANDING INCIDENTS**

Provides a greater description and detail of the Incident Command System (ICS) organization and operations, including application of essential principles and description of air operations. This course comprises five of the 17 instructional modules making up the ICS curriculum. These include Organization and Staffing (Module 7), Organizing for Incidents or Events (Module 8), Incident Resources Management (Module 9), Air Operations (Module 10), and Incident Event Planning (Module 11). One and one-half credits.

### **FSW 240 S-440 PLANNING SECTION CHIEF**

Designed to meet a portion of the training needs of the planning section chief type 2 (PSC2). Topics include information gathering, strategies and briefings, incident action plan (IAP), interactions, forms, documents, supplies, demobilization, and an optional technology section. In the final module, the students observe a simulated planning meeting and use the information derived to find errors in an incident action plan (IAP). One credit.

### **FSW 242 M-480 MULTI-AGENCY COORDINATING MAC GROUP**

Designed to train and orient potential Multi-Agency Coordinating (MAC) Group members and MAC Group Coordinators. It will provide the students with a working knowledge of the Multi-Agency Coordination System and the organization that helps support MAC Group activities. One-half credit.

## **FVT: FILM & VIDEO TECHNOLOGY**

### **FVT 208 SOUND FOR FILM/VIDEO**

Covers sound acquisition (equipment and techniques) sound perspective and sync as well as covering post-production methods including an introduction to sweetening, Foley, and audio editing software. Prerequisite(s): RTV 210 or permission of instructor. Three credits.

### **FVT 209 PRODUCTION MANAGEMENT TECHNIQUES**

Breaks down a film or TV show. This course teaches students to plan, schedule and budget the shoot using production boards and Movie Magic software. Three credits.

## **FVT 250 SCRIPTWRITING FOR FILM AND VIDEO**

Develops screenwriting skills, focusing on the basic format of the craft, scene construction, genre conventions, three act structure, characterization and idea generation. Three credits.

## **FVT 264 INTRODUCTION TO DIGITAL EFFECTS**

Introduces software and methods for creating digital effects in the post production environment. The coursework covers compositing, alpha channels, 2D and 3D effects. Three credits.

## **FVT 268 VIDEO STREAMING FOR THE WEB**

Presents compression and encoding schemes and other considerations that should be understood and employed in shooting and streaming projects for distribution over the Web. Three credits.

## **GEO: GEOGRAPHY**

### **GEO 105 WORLD REGIONAL GEOGRAPHY**

Facilitates an understanding of spatial relationships between and among the geographic regions of the world. Includes demographic and cultural (political, economic, and historic) forces related to the physical environments of selected regions. Focuses on analysis of interrelationships between developed and developing regions, and the interactions between human societies and natural environments. This course is a state guaranteed transfer course GT-SS2. Three credits.

### **GEO 106 HUMAN GEOGRAPHY**

Introduces geographic perspectives and methods with applications to the study of human activities. Emphasizes the distribution of humans, adjustments to the natural environment, and land use practices. This course is a state guaranteed transfer course GT-SS2. Three credits.

### **GEO 111 PHYSICAL GEOGRAPHY - LANDFORMS**

Introduces the principles of landforms as a major aspect of our natural environment. Incorporates an integrated process of lecture, discussion, and laboratory assignments. Four credits.

### **GEO 175 SPECIAL TOPICS**

(Formerly: GEO 125) Provides students with a vehicle to pursue in depth exploration of special topics of interest. One-half to six credits.

### **GEO 285 INDEPENDENT STUDY**

(Formerly: GEO 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **GER: GERMAN**

**NOTE:** World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

### **GER 101 CONVERSATIONAL GERMAN I**

Introduces beginning students to conversational German and focuses on understanding and speaking German. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

### **GER 102 CONVERSATIONAL GERMAN II**

Continues the sequence for students who wish to understand and speak German. Covers basic patterns, expressions, and grammar. Prerequisite(s): GER 101 or permission of instructor. Three credits.

## **GER 111 GERMAN LANGUAGE I**

(Formerly: GER 111 & GER 112) Begins a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the German language. Note: The order of the topics and methodology will vary according to individual texts and instructors. Five credits.

## **GER 112 GERMAN LANGUAGE II**

(Formerly: GER 112 & GER 113) Continues German Language I in the development of functional proficiency in listening, speaking, reading and writing the German language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): GER 111 with a grade of C or better or permission of instructor. Five credits.

## **GER 211 GERMAN LANGUAGE III**

Continues German Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the German language. **Note:** The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): GER 112 with a grade of C or better or permission of instructor. This course is a state guaranteed general education course GT-AH4. Three credits.

## **GER 212 GERMAN LANGUAGE IV**

Continues German Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the German language. **Note:** The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): GER 211 with a grade of C or better or permission of instructor. This course is a state guaranteed general education transfer course GT-AH4. Three credits.

## **GEY: GEOLOGY**

**NOTE:** Science courses are listed under the following prefixes: AST (Astronomy), BIO (Biology), CHE (Chemistry), Gey (Geology), MET (Meteorology), PHY (Physics) and SCI (Science). All course prerequisites for science courses must be completed with a grade of "C" or better.

### **GEY 111 PHYSICAL GEOLOGY**

Studies the materials of the Earth, its structure, surface features and the geologic processes involved in its development. This course includes laboratory experience. This course is a state guaranteed transfer course GT-SC1. Four credits.

### **GEY 121 HISTORICAL GEOLOGY**

Studies the physical and biological development of the Earth through the vast span of geologic time. Emphasizes the investigation and interpretation of sedimentary rocks, the record of ancient environments, fossil life-forms, and physical events, all within the framework of shifting crustal plates. Course includes laboratory experience. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): Gey 111 or permission of instructor. Four credits.

### **GEY 205 THE GEOLOGY OF COLORADO**

Covers the geologic history of Colorado, with emphasis on formation of mountain ranges, igneous, sedimentary and metamorphic rock types, ore deposits and landforms. Incorporates field experience and/or class room lectures. Three credits.

## **GEY 208 GEOLOGY FIELD TRIP**

Involves in-depth field studies into the geology of specific regions both within and outside Colorado. Trips lasting from one to several days length to study the area constitute the major activity of the course. The specific area of investigation is indicated in the schedule of classes each time the course is offered. Prerequisite(s): GEY 111 or permission of instructor. Three credits.

## **GEY 275 SPECIAL TOPICS**

Presents an overview of the special topic including one aspect of the Earth and its history as recorded in rocks and rock formations. May also include current changes and impact of historical events and exploration of current topics, issues and activities related to one or more aspects of the named discipline. Prerequisite(s): Permission of instructor. One to three credits.

## **GIS: GEOGRAPHICAL INFORMATION SYSTEMS**

### **GIS 101 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS**

Surveys the development and operation of automated geographic information systems. Focuses on the fundamentals of using computers to draw maps. Incorporates study of cartographic fundamentals such as map projections, map scales, selective display of data on maps, and various computer software applications in GIS. Three credits.

### **GIS 131 GLOBAL POSITIONING SYSTEMS FOR GLOBAL INFORMATION SYSTEMS**

Introduces the terminology, hardware, and technological principles of GPS. Students will receive an introduction in the fundamentals of using a basic hand-held GPS unit. Data will be integrated with pre-existing spatial data. Fundamentals of mapping and map reading will be covered. Garmin GPS units will be used initially, followed with Trimble GeoExplorers and Pathfinder Office software. Final student projects integrate GPS data within ArcView projects. Three credits.

## **HHP: HOLISTIC HEALTH PROFESSIONAL**

**NOTE:** Health related courses are found under the following prefixes: EMS (Emergency Medical Services), HHP (Holistic Health Professional), HPR (Health Professional), HWE (Health and Wellness), MOT (Medical Office Technology), NUA (Nursing Assistant), NUR (Nursing), STE (Surgical Technology).

### **HHP 160 LEARN TO MEDITATE**

Focuses on techniques to meditate and explores the life-enhancing benefits of meditation. One-half credit.

### **HHP 255 FUNDAMENTALS OF ACUTHERAPY**

(Formerly: HHP 280) Focuses on a complete knowledge of Traditional Chinese Medicine, emphasizing learning diagnostic procedures with hands on applications of various Acupuncture techniques. Prerequisite(s): Transcribed Anatomy and Physiology or demonstrated knowledge or instructor approval. Three credits.

### **HHP 257 DIAGNOSIS/TREATMENT IN ACUTHERAPY-**

(Formerly: HHP 281) Focuses on the continued proficiency of diagnoses in Traditional Oriental Medicine, emphasizing in treatment modalities related to acupuncture. Prerequisite(s): HHP 255. Three credits.

## **HIS: HISTORY**

### **HIS 101 WESTERN CIVILIZATION: ANTIQUITY - 1650**

Explores a number of events, peoples, groups, ideas, institutions, and trends that have shaped Western Civilization from the prehistoric era to 1650. Reflects the multiple perspectives of gender, class, religion, and ethnic groups. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline. This course is a state guaranteed transfer course GT-HI1. Three credits.

### **HIS 102 WESTERN CIVILIZATION: 1650 - PRESENT**

Explores a number of events, peoples, groups, ideas, institutions, and trends that have shaped Western Civilization from 1650 to the present. Reflects the multiple perspectives of gender, class, religion, and ethnic groups. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline. This course is a state guaranteed transfer course GT-HI1. Three credits.

### **HIS 111 WORLD CIVILIZATION: ANTIQUITY - 1500**

Enables the student to view history up to 1500 CE in a broad global sense. Focuses on the common denominators among all people. This approach goes beyond political borders, to provide a better appreciation for different cultures. This course is a state guaranteed transfer course GT-HI1. Three credits.

### **HIS 112 WORLD CIVILIZATION: 1500 - PRESENT**

Enables students to view post 1500 CE in a broad global senses. Focuses on the common denominators among all people. This approach goes beyond political borders, to provide a better appreciation for different cultures. This course is a state guaranteed transfer course GT-HI1. Three credits.

### **HIS 201 US HISTORY TO THE CIVIL WAR**

Explores events, trends, peoples, groups, cultures, ideas, and institutions in North America and United States history, including the multiple perspectives of gender, class, and ethnicity, between the period when Native American Indians were the sole inhabitants of North America, and the American Civil War. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline. This course is a state guaranteed transfer course GT-HI1. Three credits.

### **HIS 202 US HISTORY RECONSTRUCTION - PRESENT**

Explores events, trends, peoples, groups, cultures, ideas, and institutions in United States History, including the multiple perspectives of gender, class, and ethnicity, between the period of the American Civil War and the present. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline. This course is a state guaranteed transfer course GT-HI1. Three credits.

### **HIS 205 WOMEN IN WORLD HISTORY**

Examines the roles, experiences, and contributions of women in world history and explores ways in which women's history modifies the traditional interpretations of historical events. Three credits.

### **HIS 215 WOMEN IN US HISTORY**

(Formerly: HIS 139) Examines women's changing roles in American history from the pre-colonial native population to the present. Emphasizes the nature of women's work and the participation of women in the family, political, religious, and cultural activities and in social reform movements. Three credits.

### **HIS 225 COLORADO HISTORY**

Presents the story of the people, society, and cultures of Colorado from its earliest Native Americans, through the Spanish influx, the explorers, the fur traders and mountain men, the gold rush, railroad builders, the cattlemen and farmers, the silver boom, the tourists, and the modern state. Three credits.

### **HIS 236 U.S. HISTORY: SINCE 1945**

Focuses on the major political, economic, social, and cultural developments that have shaped modern America. Three credits.

### **HIS 244 HISTORY OF LATIN AMERICA**

Focuses on the major political, economic, social, and cultural influences that have shaped Latin America from pre-European conquest to the present. Emphasizes the early history of Latin America but connects it to the present. Three credits.

### **HIS 246 HISTORY OF MEXICO**

Focuses on the major political, economic, social, and cultural developments of Mexico from Pre-Columbian times to the present. Three credits.

### **HIS 247 WORLD HISTORY IN THE 20TH CENTURY**

Investigates the major political, social, and economic developments, international relationships, scientific breakthroughs, and cultural trends that have shaped the various global regions and nation-states from 1900 to the present. Emphasizes the interactions of global regions and nation-states. This course is a state guaranteed transfer course. GT-HI1 Three credits.

### **HIS 248 HISTORICAL ROOTS OF MODERN RUSSIA**

Traces the major political, ideological, economic, religious, social, and cultural developments of Russia from the establishment of the Kievan State to the present. Emphasizes the sources and development of the Soviet Union and the former-Soviet Union state(s). Three credits.

### **HIS 249 HISTORY OF ISLAMIC CIVILIZATION**

Surveys the tenets of Islam and the political, social and cultural history of the civilizations which embraced it from the 6th century to the modern day. Focuses on the diversity and dynamism of Islamic civilizations through time by looking at legal systems, scientific and artistic accomplishments, philosophical heterogeneity and political developments. This course is a state guaranteed transfer course. GT-HI1 Three credits.

### **HIS 275 SPECIAL TOPICS**

Focuses on the exploration of current topics, issues and activities related to one or more aspects of history. One to five credits.

### **HIS 285 INDEPENDENT STUDIES**

Incorporates structured and guided, individualized research that is organized and tailored around the interests and needs of the individual student. One to five credits.

## **HPR: HEALTH PROFESSIONAL**

NOTE: Health related courses are found under the following prefixes: EMS (Emergency Medical Services), HHP (Holistic Health Professional), HPR (Health Professional), HWE (Health and Wellness), MOT (Medical Office Technology), NUA (Nurse Aide), NUR (Nursing), STE (Surgical Technology).

### **HPR 100 INTRODUCTION TO HEALTH**

Provides an exploratory course for students interested in a health career. Basic health skills such as vital signs and CPR will be included. Three credits.

### **HPR 104 HEALTH CAREERS OPTIONS & READINESS**

Discusses current market trends in the medical profession, professional opportunities, continuing education, and professional affiliations. Discussions regarding resumes, portfolios, letters of inquiry, and interviewing techniques, as well as job search information is provided. This course is primarily informational and provides information to the student about aspect of career choices. One credit.

### **HPR 106 LAW/ETHICS FOR HEALTH PROFESSIONS**

Advances student knowledge in the study and application of medico-legal concepts in medical careers. Establishes a foundation for ethical behavior and decision making. Two credits.

### **HPR 108 DIETARY NUTRITION**

Studies the basic principles in clinical practice involved in the assistance of health care. The course will cover factors which influence the nutritional status of individuals, methods of nutritional assessment and support, and diet modification for specific disease states. One credit.

### **HPR 112 PHLEBOTOMY**

Teaches the duties associated with the practice of venipuncture, capillary puncture, and special collection procedures. Students will have experience with quality control, infection control and safety procedures as well as laboratory computer systems. Four credits.

### **HPR 113 ADVANCED PHLEBOTOMY**

Instructs students in advanced phlebotomy techniques to include patients in trauma, neonatal, geriatric, and long term acute care areas. In addition, laboratory procedures taught include specimen processing and advanced point-of-care instrumentation. This course includes a lecture/lab combination that teaches theory and direct application of theoretic content and clinical opportunities for student to master learned skills. Four credits.

### **HPR 137 HUMAN DISEASES**

Covers basic knowledge of the deviations that occur in the human body with disease and injury. An integrated study of signs/symptoms, diagnostic tests and treatment. Prerequisite(s): HPR 178 or equivalent & BIO 106. Four credits.

### **HPR 157 CONTEMPORARY ISSUES IN ELDERLY**

Teaches the student to become familiar with the issues surrounding eldercare today. Issues pertaining to health, wellness, emotional/psychosocial, and financial will be explored. Three credits.

### **HPR 142 HUMAN RELATIONS**

Explores interacting with others and positive working relationships as a vital component of working in a health care profession. Application of procedures which include human relations techniques, job applications, interview techniques, resume writing and follow-up. Whenever applicable mock interviews are videotaped and critiqued. Resource people are invited to speak on topics relative to adjustments in real working situations. Students will be introduced to leadership skills through community project participation, theory and HOSA. Five credits.

### **HPR 175 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to five credits.

### **HPR 178 SEMINAR: MEDICAL TERMINOLOGY**

Introduces the student to the structure of medical terms with emphasis on combining and using the most common prefixes, roots and suffixes. Includes terms related to clinical laboratory, diagnostic imaging, nuclear medicine and oncology, as well as major body systems. Classroom structure provides accepted pronunciation of terms and relative use in the healthcare setting. Prerequisite(s): Met state remediation requirements. Three credits.

### **HPR 180 INTERNSHIP**

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location with the guidance of the instructor. One to twelve credits.

### **HPR 185 INDEPENDENT STUDY**

Provides structured and guided, individualized research that is organized and tailored around the interests and needs of the individual student. Prerequisite(s): Instructor approval. One to six credits.

### **HPR 190 BASIC EKG INTERPRETATION**

Provides instruction for interpretation of EKG strips, anatomy and physiology of the heart, using three-lead monitoring as a guide. Twelve-lead EKG may be discussed. Minimum of EMT Basic certification or experience. Two credits.

### **HPR 200 12 LEAD ECG INTERPRETATIONS**

Focuses on each wave and interval of the complex, the axis, and the 12-lead presentation of some rhythm disturbances. Prerequisite(s): Basic EKG or permission of instructor. Two credits.

### **HPR 217 KINESIOLOGY**

Focuses on mechanical principles of kinematics, kinetics, muscle physiology, and neurophysiology and the interaction to produce function. Joint and muscle structure and function with application are a main focus. Four credits.

## **HUM: HUMANITIES**

### **HUM 103 INTRODUCTION TO FILM ART**

(Formerly: HUM 151) Studies the relationships among film's stylistic systems, narrative systems and audience reception. Students view, discuss and critically analyze a variety of films which represent key historical and aesthetic periods as well as a variety of genres and themes. The course incorporates the vocabulary stylistic systems (for instance, cinematography, editing and art direction) and narrative systems (for instance, story structure and character motivation) as both relate to the kinds of meanings a film conveys. Three credits.

### **HUM 121 EARLY CIVILIZATIONS**

Introduces students to the history of ideas that have defined cultures through a study of the visual arts, literature, drama, music, and philosophy. It emphasizes connections among the arts, values, and diverse cultures, including European and non-European, from the Ancient world to 1000 C.E. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **HUM 122 FROM THE MEDIEVAL TO THE MODERN**

Examines written texts, visual arts and musical compositions to analyze and reflect the evolution and confluence of cultures in Europe, Asia and the Americas from 800 C.E. to 1750 C.E. Any two of the three Survey of Humanities courses equal a sequence This course is a state guaranteed transfer course GT-AH2. Three credits

### **HUM 123 THE MODERN WORLD**

Examines the cultures of the 17th through the 20th centuries by focusing on the interrelationships of the arts, ideas, and history. Considers the influences of industrialism, scientific development and non-European peoples. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **HUM 131 THE ARTS AND CULTURES OF MEXICO**

Introduces students, through visual arts, music, and literature to attitudes toward the sacred and toward power (political, economic, social, religious) held by various cultures in Mexico from the Pre-Hispanic era to the mid-twentieth century. Three credits.

### **HUM 175 SPECIAL TOPICS**

(Formerly: HUM 135) Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **HUM 285 INDEPENDENT STUDY**

(Formerly: HUM 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **HWE: HEALTH & WELLNESS**

NOTE: Health related courses are found under the following prefixes: EMS (Emergency Medical Services), HHP (Holistic Health Professional), HPR (Health Professional), HWE (Health and Wellness), MOT (Medical Office Technology), NUA (Nurse Aide), NUR (Nursing), STE (Surgical Technology).

NOTE: Physical Education courses are found under the following prefixes: DAN (Dance), HWE (Health and Wellness), PED (Physical Education), PER (Physical Education and Recreation).

\*This is a physical education course.

(Physically challenged students planning to register for a Physical Education class should contact the Physical Education Department at 970.339.6295, no less than three days before registering to ensure access to and success in the chosen class.)

### **HWE 100 HUMAN NUTRITION**

Introduces basic principles of nutrition with emphasis on personal nutrition. Satisfies nutrition requirement of students entering health care professions. Prerequisite(s): None. Three credits.

### **\*HWE 103 COMMUNITY FIRST AID & CPR**

(Formerly: HEN 106 Red Cross Standard 1st Aid CPR) Uses demonstration videos, instructor led practice and workbook/textbook study to prepare for certification in Adult/Child/Infant CPR and Community First Aid. One credit.

### **\*HWE 108 WEIGHT LOSS**

Focuses on combining a healthy diet and exercise to shed unwanted pounds and inches. The course will include classroom sessions that will focus on personal habits including diet that lead to weight gain and possibly exercise sessions in the gym. One credit.

### **HWE 111 HEALTH AND FITNESS**

Studies health and fitness in the U.S. today. The course will look at personal health issues, managing stress, nutrition and health life styles. Three credits.

### **\*HWE 145 SELF DEFENSE**

Introduces the basic skills and techniques of the art of self defense. One credit.

## ITA: ITALIAN

**NOTE:** World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

### ITA 101 CONVERSATIONAL ITALIAN I

Provides the first course in a sequence for beginning students who wish to understand and speak Italian. The material includes basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

### ITA 102 CONVERSATIONAL ITALIAN II

Provides the second course in a sequence for students who wish to understand and speak Italian. The material continues to cover basic conversational patterns, expressions, and grammar. Prerequisite(s): ITA 101 or permission of instructor. Three credits.

### ITA 111 ITALIAN LANGUAGE I

(Formerly: ITA 111 & ITA 112) Introduces a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the Italian language. Note: The order of the topics and methodology will vary according to individual texts and instructors. Five credits.

### ITA 112 ITALIAN LANGUAGE II

(Formerly: ITA 112 & ITA 113) Continues Italian Language I in the development of functional proficiency in listening, speaking, reading and writing the Italian language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): ITA 111 with a grade of C or better or permission of instructor. Five credits.

### ITA 211 ITALIAN LANGUAGE III

Continues Italian Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): ITA 112 with a grade of C or better or permission of instructor. This course is a state guaranteed transfer course GT-AH4. Three credits.

### ITA 212 ITALIAN LANGUAGE IV

Continues Italian Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): ITA 211 with a grade of C or better or permission of instructor. This course is a state guaranteed transfer course GT-AH4. Three credits.

### ITA 285 INDEPENDENT STUDY

(Formerly: ITA 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## JOU: JOURNALISM

### JOU 105 INTRODUCTION TO MASS MEDIA

Places the mass media in an historical and cultural perspective, considering the validity, integrity and influence of the media in a democracy. This course is a state guaranteed transfer course GT-SS3. Three credits.

### JOU 106 FUNDAMENTALS OF REPORTING

Introduces newswriting, reporting and interviewing with an emphasis on clarity, accuracy, completeness, timeliness and fairness. Three credits.

### JOU 121 PHOTOJOURNALISM

Provides an introductory, hand-on course in black-and-white photography, with an emphasis on photo-journalistic techniques, processing and printing. This course includes an investigation of word/pictures relationships in creating photo essays for publications. Three credits.

### JOU 206 INTERMEDIATE NEWSWRITING & EDITING

Presents how to gather information as an investigative reporter through research of local, state and federal government publications; how to cover police beat and city hall; how our courts and regulatory agencies function; and how to cover other challenges as the environment, religion, science, medical, public safety and business. Prerequisite(s): JOU 106 or permission of instructor. Three credits.

### JOU 280 INTERNSHIP

Provides a structured and guided, individualized research that is organized and tailored around the interests and needs of the individual student who may use journalism skills and experiences acquired during previous coursework. One to six credits.

## JPN: JAPANESE

**NOTE:** World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

### JPN 101 CONVERSATIONAL JAPANESE I

Introduces beginning students to conversational Japanese and focuses on understanding and speaking Japanese. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

### JPN 102 CONVERSATIONAL JAPANESE II

Continues the sequence for students who wish to understand and speak Japanese. Covers basic conversational patterns, expressions and grammar. Prerequisite(s): JPN 101 or permission of instructor. Three credits.

### JPN 111 JAPANESE LANGUAGE I

Introduces a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the Japanese language. NOTE: The order of topics and methodology will vary according to the individual instructors and texts. Five credits.

### JPN 112 JAPANESE LANGUAGE II

Continues Japanese Language I in the development of functional proficiency in listening, speaking, reading and writing the Japanese language. NOTE: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): JPN 111 with a grade of C or better or permission of instructor. Five credits.

### JPN 211 JAPANESE LANGUAGE III

Continues Japanese Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Japanese language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): JPN 112 with a grade of C or better or permission of instructor. This course is a state guaranteed transfer course GT-AH4. Three credits.

### **JPN 212 JAPANESE LANGUAGE IV**

Continues Japanese Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the Japanese language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): JPN 211 with a grade of C or better or permission of instructor. This course is a state guaranteed transfer course GT-AH4. Three credits.

### **JPN 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **LIT: LITERATURE**

### **LIT 115 INTRODUCTION TO LITERATURE**

Introduces students to fiction, poetry, and drama. Emphasizes active and responsive reading. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 175 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to three credits.

### **LIT 201 MASTERPIECES OF LITERATURE I**

Examines significant writings in world literature from the ancients through the Renaissance. Emphasizes careful readings and understanding of the works and their cultural backgrounds. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 202 MASTERPIECES OF LITERATURE II**

Examines significant writings in world literature from the seventeenth century to the present. Emphasizes careful reading and understanding of the works and their cultural backgrounds. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 205 ETHNIC LITERATURE**

Focuses on significant texts by ethnic Americans, including African-American Native American, Latino/a, and Asian Americans. Emphasizes careful reading and understanding of the cultural and literary elements of the works. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 211 SURVEY OF AMERICAN LITERATURE I**

Provides an overview of American literature for the Native American through the nineteenth century Romantics. It explores ideas, historical and social contexts, themes and literary characteristics of work in various genres by major writers. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 212 SURVEY OF AMERICAN LITERATURE II**

Provides an overview of American literature from the mid-nineteenth century to the present. It explores ideas, historical and social contexts, themes and literacy characteristics of works in various by major writers. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 221 SURVEY OF BRITISH LITERATURE I**

Provides an overview of British literature from the Anglo-Saxon period through the 17th century. It explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 222 SURVEY OF BRITISH LITERATURE II**

Provides an overview of British literature from the 18th century to the present. It explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 225 INTRODUCTION TO SHAKESPEARE**

Explores a selection of works by William Shakespeare. It focuses on careful reading and interpretation of the plays and poems, includes pertinent information about Elizabethan England, and examines formal as well as thematic elements of the selected works. This course is a state guaranteed transfer course GT-AH2. Three credits.

### **LIT 235 SCIENCE FICTION**

Examines the techniques and issues of science fiction through a close reading a variety of writers in the genre. Three credits.

### **LIT 246 LITERATURE OF WOMEN**

Examines the techniques and themes in literature by and about women by examining women's issues from various genres. Three credits.

### **LIT 255 CHILDREN'S LITERATURE**

This course will provide students with the skills to evaluate and select appropriate literature for children through exploration of genres, age levels, values taught through literature, and the literary and artistic quality of various texts. Three credits.

### **LIT 285 INDEPENDENT STUDY**

(Formerly: LIT 295) Explores particular authors, topics, themes in depth, such as Ibsen, Faulkner or Twain, or great fiction of the nineteenth century. Three credits.

## **MAN: MANAGEMENT**

### **MAN 102 BUSINESS ETHICS AND VALUES**

Discuss behavior and identifies what is ethical and appropriate behavior and what is not. This course will identify the role of integrity, character, honesty, self-control, self-sacrifice, and core values in developing ethical and effective behavior in the workplace. One credit.

### **MAN 116 PRINCIPLES OF SUPERVISION**

Studies the principles and techniques of supervising and motivating personnel. This course is designed for students who are interested in supervising others or for those currently in supervision. Course content focuses on the human interaction in supervision. Three credits.

### **MAN 117 TIME MANAGEMENT**

Provides students with the conceptual knowledge and tools to make better use of their time in the management function. One credit.

### **MAN 125 TEAMBUILDING**

Introduces the concept of working as a team member. Activities and assignments will emphasize the ability to negotiate, work together, build consensus, and make quality decisions. One credit.

### **MAN 126 TOTAL QUALITY MANAGEMENT**

Covers the rationale for, method of implementing and key characteristics of TQM. Topics include developing a vision of a quality culture, strategic planning for implementation, customer focus, supplier relationships, benchmarking, continuous improvement, employee empowerment, and teamwork. Through case studies students learn to apply TQM in manufacturing and service environments. Three credits.

### **MAN 156 PROBLEM SOLVING AND DECISION MAKING IN A BUSINESS ENVIRONMENT**

Defines the problem solving and decision making processes. Those processes include: identifying decision elements, recognizing characteristics of good and bad decisions, practicing various approaches to decision making, utilizing a 9 step process for organizational decision making, exploring the nature of problems, understanding problems situation factors, identifying problems, considering the human side of problem solving and utilizing a 6 step problem solving process. Three credits.

### **MAN 165 MANAGING SYSTEMS**

Explores and discusses systems thinking and theory on process leadership for organizations. Participants will apply strategies and applications for developing systems tools, archetypes, and models. Introduces concepts of organizational inter-dependence, cooperative versus competitive systems, variation, theory of knowledge, and social systems. Utilization of systems models, mental maps, and thinking tools. Two credits.

### **MAN 166 PROJECT TEAM BUILDING**

Develops skills in project team building and group decision techniques. Participants will experience effective methods for building high performance project teams while developing and understanding team dynamics, team composition, and team decision making tools. Develops skill in team diagnostics, evaluation, and coaching techniques. One credit.

### **MAN 167 REASONING, PROBLEM SOLVING, CRITICAL THINKING**

Learn skills in the area of problem solving, critical thinking, inductive and deductive reasoning. Students will learn and apply structured scientific models for defining, verifying, and analyzing problems, while selecting reasonable solutions. The course concentrates on the use of the 7MP tools, QFD decision matrices and Goldratt's Thinking Process tools. Two credits.

### **MAN 168 BASIC PROCESS CONTROLS**

Presents the basic concepts and terminology of statistical process control. Participants learn and practice the seven quality tools to find and remove causes of process variation. Participants will identify and become familiar with the basic statistical tools, their uses, and potential application and be introduced to process capability, variation, and process control. Two credits.

### **MAN 200 HUMAN RESOURCE MANAGEMENT I**

Provides the student with a broad overview of the contemporary issues, theories and principles used to effectively manage human resources. Topics include recruiting, hiring, compensation and benefits, training and development, employee relations, and legal issues. Three credits.

### **MAN 212 NEGOTIATION & CONFLICT RESOLUTION**

Presents proper techniques in negotiation and conflict resolution. Key practices that determine successful negotiation are explored. This course covers principles of conflict resolution including business policies, accepted business practices contracts, labor union contracts, pay raises and starting salaries. Three credits.

### **MAN 215 ORGANIZATIONAL BEHAVIOR**

Examines the behaviors of groups and individual members of organizations and how that behavior can be influenced. Course emphasis is on the tools managers use to achieve organizational effectiveness. Three credits.

### **MAN 216 SMALL BUSINESS MANAGEMENT**

Examines the elements necessary for the successful formation of a new small business. It is also designed to enhance the skills of those already involved in the operation of a small business. The course includes the development of a complete small business plan. Three credits.

### **MAN 224 LEADERSHIP**

Focuses on the leadership skills necessary to bring about change in an organization. Students learn to develop and communicate a shared vision, to empower employees, to manage conflict, to negotiate, and to develop organizations so that all are working toward common goals. Three credits.

### **MAN 225 MANAGERIAL FINANCE**

Examines the concepts and techniques used to analyze financial accounting information for managerial planning, decision-making and control. The focus of the course is on decision-making relating to the areas of budgets, forecasts, cost volume production, ROI and financial statements. Prerequisite(s): ACC 122. Three credits.

### **MAN 226 PRINCIPLES OF MANAGEMENT**

Presents a survey of the principles of management. Emphasis is on the primary functions of planning, organizing, leading and controlling with a balance between the behavioral and operational approach. Three credits.

### **MAN 240 STRATEGIC MANAGEMENT**

Presents the development of business policy and the integration of skills learned in prior business study, including strategy formulation, implementation, and evaluation. Focus is on the coordination of marketing, production, finance, accounting, and ethics and social responsibility to achieve competitive advantage. Prerequisite(s): ACC 121, MAR 216 and MAN 226. Three credits.

### **MAN 241 PROJECT MANAGEMENT IN ORGANIZATIONS**

Introduces students to the planning, implementation, and control activities of project management, including project and performance evaluation, quality control and work flow analysis. Emphasis will be on the initiating, planning, executing, controlling, and closing activities of project management. Three credits.

### **MAN 246 CRITICAL ISSUES IN MARKETING AND MANAGEMENT**

Examine current issues, practices, challenges and trends in the marketing and management environments including truth in advertising, promotional codes of conduct and a diverse workforce. Three credits.

### **MAN 255 FLOW, FAST CYCLE, AND VALUE-ORIENTED PROJECT MANAGEMENT**

Introduces participants to new project management techniques based on the lean thinking principles, fast cycle project management, and value-based project management. Topics include project flow systems, last planner system, phase scheduling, value analysis, and ISO 9000 quality management. Participants will develop an understanding of recent thinking and theories in project management. Prerequisite(s): MAN 166. Three credits.

### **MAN 256 CRITICAL CHAIN PROJECT MANAGEMENT**

Learn Eli Goldratt's critical chain as a new and exciting way to accurately manage multiple projects within budget and time constraints. Understand the concept of constraints, critical chain, making time estimates under conditions of uncertainty, buffer management, interdependency of resources, and focusing effort. Learn the implications of critical chain for various types of projects. Prerequisite(s): MAN 166. Three credits.

### **MAN 265 SALES & CUSTOMER SERVICE FOR TELECOMMUNICATIONS**

Develop a comprehensive understanding of competitive sales and customer service strategies in the telecommunications industry. Three credits.

### **MAN 267 PROCESS CONTROL FOR PROJECT MANAGEMENT**

Introduces advanced concepts of statistical process control. Participants will learn and apply statistical tools for discovering and addressing sources of variation. Statistical concepts and tools include variable selection, control charts, chart interpretation, process capability and control, gage studies, and process control maintenance. Statistical calculator or statistical software program required. Prerequisite(s): MAN 168. Three credits.

### **MAN 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as needed basis to provide current, up-to-date information. One to six credits.

### **MAN 278 SEMINAR**

Provides students with an experiential learning opportunity. One to three credits.

### **MAN 287 COOPERATIVE EDUCATION/ INTERNSHIP**

Provides students with the opportunity to supplement course work with practical work experience related to their educational program and occupational objectives. They work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator. One to six credits.

## **MAR: MARKETING**

### **MAR 111 PRINCIPLES OF SALES**

Enables the student to understand and develop ethical sales techniques and covers the role of selling in the marketing process. Areas of emphasis include behavioral considerations in the buying and selling process and sales techniques. Three credits.

### **MAR 117 PRINCIPLES OF RETAILING**

Emphasizes the study of the basic principles and techniques of merchandising, operations, layout, store organization, site location, and customer service with an emphasis on retailing operations. Three credits.

### **MAR 178 SEMINAR/WORKSHOP**

Provides students with an experimental learning experience. Zero to six credits.

### **MAR 185 INDEPENDENT STUDY**

Meet the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

### **MAR 216 PRINCIPLES OF MARKETING**

Presents the analysis of theoretical marketing processes and the strategies of product development, pricing, promotion and distribution, and their applications to businesses and the individual consumer. Three credits.

### **MAR 220 PRINCIPLES OF ADVERTISING**

Examines the principles and practices of advertising and its relationship to business in order to promote a business or organization. Areas of major emphasis include advertising principles, strategies, media, copy and layout, and ethical considerations. Three credits.

### **MAR 235 CONSUMER BEHAVIOR**

Enables the student to understand the variables that affect consumer behavior in the marketplace and the implications of this knowledge for marketing decisions and strategies. Three credits.

### **MAR 240 INTERNATIONAL MARKETING**

Enables the student to explore the international marketing for U.S. products, and to explore the increasing competitive international environment and recent changes in the environment that have challenged U.S. business. The course is designed to make the reader an "informed observer" of the global market place as well as enabling him/her to develop skills to make marketing decisions in a global context. Three credits.

### **MAR 258 MARKETING RESEARCH**

Introduces the principles and practices of marketing research, including creating research design, data collection and interpretation, and communicating the results. Prerequisite(s): MAR 216. Three credits.

### **MAR 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as needed basis to provide current, up-to-date information. One to six credits.

### **MAR 278 SEMINAR**

Provides students with an experiential learning opportunity. One to six credits.

## **MAT: MATH**

NOTE: Prerequisite courses must be completed with a "C" or better. \*This course will not satisfy minimum nor elective requirements for associate degrees.

### **\*MAT 030 FUNDAMENTALS OF MATHEMATICS**

Includes the vocabulary, operations and applications of whole numbers, decimals and basic fractions and mixed numbers. Prerequisite(s): Placement test. Students must pass MAT 030 with a grade of "C" or better for placement into MAT 060. Two credits.

### **\*MAT 060 PRE-ALGEBRA**

Further the study of fractions and mixed numbers. Also included are vocabulary, operations and applications of ratio, proportion, percent, area, perimeter, US and metric measures, integers, and an introduction to algebraic expressions and the solution of basic first-degree equations. Prerequisite(s): MAT 030 with a grade of "C" or better or placement test. Students must pass MAT 060 with a grade of "C" or better for placement into MAT 090. Three credits.

### **\*MAT 090 INTRODUCTORY ALGEBRA**

Includes first-degree equations, inequalities, formulas, polynomials, algebraic fractions, factoring polynomials, solving quadratic equations by factoring, and applications. Coordinate geometry, graphing linear equations and inequalities, and systems of linear equations are included. Prerequisite(s): MAT 060 with a grade of "C" or better or Assessment. Four credits.

### **MAT 099 SURVEY OF ALGEBRA**

(Formerly MAT 106) Emphasizes problem solving with further study of equations, slope, inequalities, systems of equations, polynomials, quadratic equations, rational expressions, rational exponents, radical expressions, graphing and applications. Prerequisite(s): MAT 090 or Assessment. Four credits.

### **MAT 107 CAREER MATH**

Covers material designed for career technical or general studies students who need to study particular mathematical topics. Topics may include measurement, algebra, geometry, trigonometry, graphs, and/or finance. These are presented on an introductory level and the emphasis is on applications. Prerequisite(s): Mat 060 or assessment. Three credits.

### **MAT 108 TECHNICAL MATHEMATICS**

(Formerly: ENT 116) This course provides students with the practical mathematics skills needed in a wide variety of trade and technical areas including automotive, construction, drafting, and welding. Since this course is specifically focused on the development and application of mathematical concepts using a variety of real problems and situations, it may not be suitable for those wanting a general overview of mathematics. This course begins with a review of basic math concepts, and then covers measurement topics, and basic algebra. Solving and rearranging formulas, and applications of plane and solid geometry concepts are thoroughly presented. Students also study triangle trigonometry and common applications used in the technical fields. Detailed instruction on the use of scientific calculators is provided in each of the topics studied. Prerequisite(s): MAT 060 or assessment. Four credits.

### **MAT 111 TECHNOLOGY LAB FOR ALGEBRA**

Explores and applies algebraic topics in a laboratory course using graphing calculators. Prerequisite(s): MAT 099 or assessment. One credit.

### **MAT 112 FINANCIAL MATHEMATICS**

Covers topics including pricing, taxes, insurance, interest, annuities, amortization, investments using financial calculators and spreadsheets. Prerequisite(s): MAT 090 or assessment. Three credits.

### **MAT 120 MATHEMATICS FOR THE LIBERAL ARTS**

Develops mathematical and problem-solving skills. Appropriate technological skills are included. Content is selected to highlight connections between mathematics and the society in which we live. Topics include set theory and logic, mathematical modeling, probability and statistical methods, and consumer mathematics. Additional content will include one topic in geometry, numeration systems, decision theory, or management science. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 099 or assessment. Four credits.

### **MAT 121 COLLEGE ALGEBRA**

Includes a brief review of intermediate algebra, equations and inequalities, and covers functions, exponential and logarithmic functions, theory of equations, graphs, and linear and nonlinear systems with a selection of several topics from among graphing of the conic sections, sequences and series, permutations and combinations, and the binomial theorem. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 099 or assessment. Four credits.

### **MAT 122 COLLEGE TRIGONOMETRY**

Covers topics including trigonometric functions (with graphs and inverse functions), identities and equations, solutions of triangles, complex numbers, and other topics as time permits. This is a traditional prerequisite course to the calculus sequence. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 121 or assessment. Three credits.

### **MAT 125 SURVEY OF CALCULUS**

Includes derivatives, integrals, and their applications, with attention restricted to algebraic, exponential, and logarithmic functions for business, life science and/or social science majors. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 121. Four credits.

### **MAT 135 INTRODUCTION TO STATISTICS**

Includes data presentation and summarization, introduction to probability concepts and distributions, statistical inference-estimation, hypothesis testing, comparison of populations, correlation and regression. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 099 or Assessment. Three credits.

### **MAT 155 INTEGRATED MATH I**

Covers topics including natural numbers, integers, rational numbers, relations, functions, and equations. This course is particularly pertinent to prospective arithmetic teachers, presenting arithmetic and algebra from a modern approach. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 156 or MAT 099 or assessment. Three credits.

**NOTE:** In order to receive General Education credit for Integrated Math courses as part of the Elementary Education Articulation Agreement, students must complete both MAT 155 and MAT 156. Successful completion of both MAT 155 and MAT 156 will satisfy all General Education requirements in the Mathematics category for the A.A. degree under the Elementary Education Articulation Agreement.

### **MAT 156 INTEGRATED MATH II**

This course includes the study of the fundamentals of probability, statistics, and informal Euclidean geometry suitable for K-8 curriculum, employing laboratory techniques where applicable. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 155 or MAT 099 or assessment. Three credits.

**NOTE:** In order to receive General Education credit for Integrated Math courses as part of the Elementary Education Articulation Agreement, students must complete both MAT 155 and MAT 156. Successful completion of both MAT 155 and MAT 156 will satisfy all General Education requirements in the Mathematics category for the A.A. degree under the Elementary Education Articulation Agreement.

### **MAT 175 SPECIAL TOPICS**

(Formerly: MAT 185) Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite(s): Permission of instructor. One to three credits.

### **MAT 175 SPECIAL TOPICS – INTRODUCTION TO GEOMETRY**

(Formerly: MAT 103) This course provides the basic content of geometry for use in future mathematics courses including trigonometry and calculus. Topics include points, lines, congruent and similar triangles, quadrilaterals, circles, areas and volumes. Other topics will be included if time permits. Prerequisite(s): MAT 090 or assessment. One credit.

### **MAT 185 INDEPENDENT STUDY IN MATHEMATICS**

Provides an opportunity for the highly-motivated student to engage in intensive study and research on a specified topic, appropriate at this level, under the direction of a faculty member. The student will be limited to the number of independent study credits taken per semester. Prerequisite: Previous mathematical study with permission of instructor. One to three credits.

## **MAT 201 CALCULUS I**

Introduces single variable calculus and analytic geometry. Includes limits, continuity, derivatives, and applications of derivatives as well as indefinite and definite integrals and some applications. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 121 and MAT 122, or assessment. Five credits.

## **MAT 202 CALCULUS II**

Continuation of single variable calculus which will include techniques of integration, polar coordinates, analytic geometry, improper integrals, and infinite series. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 201 or assessment. Five credits.

## **MAT 203 CALCULUS III**

(Formerly: MAT 260) Completes the traditional subject matter of the Calculus. Topics include vectors, vector-valued functions, and multi-variable calculus including partial derivatives, multiple integrals, line integrals and application. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 202 or assessment. Four credits.

## **MAT 215 DISCRETE MATHEMATICS**

Includes formal logic, algorithms, induction proofs, counting and probability, recurrence relations, equivalence relations, graphs, shortest-path, and tree traversal. This course is designed for mathematics and computer science students. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 125 or MAT 201. Four credits.

## **MAT 255 LINEAR ALGEBRA**

Includes vector spaces, matrices, linear transformations, matrix representation, eigenvalues, and eigenvectors. This course is a state guaranteed transfer course GT-MA1. Corequisite(s): MAT 202. Three credits.

## **MAT 265 DIFFERENTIAL EQUATIONS**

Emphasizes techniques of problem solving and applications. Topics include first, second, and higher order differential equations, series methods, approximations, systems of differential equations, and Laplace transforms. This course is a state guaranteed transfer course GT-MA1. Prerequisite(s): MAT 202. Three credits.

## **MAT 285 INDEPENDENT STUDY**

(Formerly: MAT 295) Provides an opportunity for the highly-motivated student to engage in intensive study and research on a specified topic under direction of a faculty member Prerequisite(s): Permission of instructor. One to three credits.

## **MET: METEOROLOGY**

NOTE: Science courses are listed under the following prefixes: AST (Astronomy), BIO (Biology), CHE (Chemistry), GEY (Geology), MET (Meteorology), PHY (Physics) and SCI (Science). All course prerequisite(s) for science courses must be complete with a grade of "C" or better.

## **MET 150 GENERAL METEOROLOGY**

(Formerly: GEY 106) Provides an introduction to general meteorology and atmospheric sciences. It includes the composition and structure of the atmosphere and characteristics that affect the atmosphere, such as temperature, pressure, and moisture. Additionally, the development of weather systems, such as storm systems, hurricanes, weather fronts and cloud development will also be examined. Finally, concepts of climatology will be stressed. This course is a state guaranteed transfer course GT-SC1. Four credits.

## **MGD: MULTIMEDIA GRAPHIC DESIGN**

### **ART 250 ART OF ANIMATION**

Listed in the ART course section.

### **MGD 101 INTRODUCTION TO COMPUTER GRAPHICS**

Introduces the student to the computer system developed for graphics. The student will learn the hardware and software components for multimedia production. Each student will explore basic computer operations, ergonomics, file management, scanning techniques, archiving capabilities, and utilization of the multimedia department server and internet connection. Prerequisite(s): None. Three credits.

### **MGD 105 TYPOGRAPHY & LAYOUT**

Covers the creation and production of graphic projects, emphasizing the layout creative design process, problem solving, and research. Provides experience producing thumbnails, roughs and digital layouts emphasizing refined creative typography. Three credits.

### **MGD 109 DESIGN AND COLOR**

Covers the design process and creative problem solving. Design and color theories, fundamental, styles, stages area applied to workups, finished art, and presentations. Emphasis will be on line, form, composition, and continuity. Three credits.

### **MGD 111 ADOBE PHOTOSHOP I**

Concentrates on the high-end capabilities of a raster photo-editing software as an illustration, design and photo retouching tool. Students explore a wide range of selection and manipulation techniques that can be applied to photos, graphics and videos. Three credits.

### **MGD 112 ADOBE ILLUSTRATOR I**

Acquaints students with the processes of a vector drawing program on the computer. Students learn how to use the tools to create digital artwork that can be used in web design, print media and digital screen design. Three credits.

### **MGD 113 QUARK XPRESS I**

Introduces students to QuarkXPress, a digital page layout tool. Students learn how to assemble, organize, manipulate and manage text and graphics to produce a high quality publication. Class discussions and independent projects supplement hands-on classroom work. Three credits.

### **MGD 114 ADOBE INDESIGN**

Introduces students to InDesign, a page layout program which integrates effortlessly with other Adobe design programs. InDesign delivers creative freedom and productivity to DTP. Class discussions and independent projects supplement hands-on classroom work. Three credits.

### **MGD 119 MAYA I**

Introduces students to Maya, a high-end character animation tool. Emphasis is on building models of various types. Students learn setting up and animating scenes for render in movie format. Three credits.

### **MGD 141 WEB DESIGN I**

(This class uses Dream Weaver) Introduces the fundamentals of HTML syntax using a simple text editor to create a web page. Web-safe colors and the use of graphic editors will be explored. Students study web aesthetics and intuitive interface design. The course emphasizes file organization and layout including tables and frames. Students learn file formats and best methods of scanning for the Web. Three credits.

### **MGD 143 MOTION GRAPHIC DESIGN I (FLASH)**

Stresses creation of animation and dynamic interactive media for web and multimedia applications. Students will learn how to animate objects, create symbols, and assemble motion tweens. Three credits.

### **MGD 150 LEGAL ISSUES IN MULTIMEDIA**

Educates the student about the unique business legal concerns that media producers face. These include media contracts, labor issues, libel, and privacy rights. Special attention is paid to the use and protection of copyrights and trademarks, both from the copyright holder's and the user's standpoints. Three credits.

### **MGD 152 DIGITAL ANIMATICS**

Introduces the steps followed by professional animators and game designers for producing media in a digital environment. Students learn the foundational skills of planning, organizing, storyboarding and pre-visualization techniques necessary to create animated stories. Students will also study the history of animation and game design. Three credits.

### **MGD 155 LIGHTWAVE I**

Introduces students to LightWave's Modeler program with an emphasis on modeling techniques. It also touches on LightWave's Layout program for setting up scenes with texture maps and lighting. There will also be instruction on how to import models from other programs. Three credits.

### **MGD 163 SOUND DESIGN I**

Explores the use of sound in multimedia production and audio storytelling. Students examine the principles of recording. Classes focus on how sound can enhance interactive productions and improve computer presentations. Students learn how to use the computer as a full audio editing studio. Three credits.

### **MGD 164 DIGITAL VIDEO EDITING I**

This course introduces digital non-linear video editing. Students will capture, compress, edit, and manipulate video images using a personal computer. Assembly techniques including media management, editing tools, titles, and motion control; transitions and filters, and special effects are explored. Three credits.

### **MGD 167 GAME DESIGN I**

Introduces students to game design from conceptual development and functionality, through production of a virtual world prototype. Students examine such things as character registration, in-betweens, inking and clean up used for creating real-time game environments. Storytelling and visual metaphor development are emphasized. Three credits.

### **MGD 204 VIDEOGRAPHY II**

Offers advanced study of digital video imaging concepts using digital video cameras. Heavy emphasis is placed upon media aesthetics and the creative integration of sight, sound, and motion in student projects. Prerequisite(s): RTV 269 or permission of instructor. Three credits.

### **MGD 211 ADOBE PHOTOSHOP II**

Develops and reinforces image composition techniques learned in Adobe Photoshop I, MGD 111. Fundamentals are continuously reinforced as new design techniques are introduced. Prerequisite(s): MGD 111 or permission of instructor. Three credits.

### **MGD 212 ADOBE ILLUSTRATOR II**

Enables the student to continue development of electronic drawing skills through practice and use of state of the art illustration software. Prerequisite(s): MGD 112 or permission of instructor. Three credits.

### **MGD 213 ELECTRONIC PRE-PRESS**

Explores in detail the electronic pre-press process. Students examine steps for preparing a digital file for trapping, output considerations and proofing techniques. Creating effective electronic designs and efficient use of today's software programs are also covered. Three credits.

### **MGD 216 ADOBE ACROBAT PROFESSIONAL**

Concentrates on the high-end capabilities of Adobe Acrobat Professional software as a document conversion, presentation, form generation, secure document delivery, and press production tool. Students explore a wide range of techniques that can be applied to the web, graphics, interactive and presentation multimedia, commenting workflows, and print media. Adobe Acrobat Professional allows student to bridge the paper-to-digital divide—simply, powerfully, and securely. Three credits.

### **MGD 219 MAYA II**

Explores in-depth Maya's animation techniques. Also, the student will be exposed to rigging characters for animation. Three credits.

### **MGD 241 WEB DESIGN II**

Expands on previously learned fundamentals of HTML introducing cascading style sheet. DHTML, JavaScripts and CGI forms. Color usage and interface design principles are emphasized in this course. In this course we'll examine Web sites that employ more complex structures, optimal site architecture and navigation necessary for larger and more complex sites. Prerequisite(s) MGD 141 or permission of instructor. Three credits.

### **MGD 243 WEB MOTION GRAPHIC DESIGN II (FLASH)**

Stresses the complex creation of 2D animated motion graphics concentrating on the prior skills learned and the use of scripting and behaviors. Students will create motion graphics using these skills and apply them to web sites. Web site justification of motion graphics will be stressed, appraised and weighed. Prerequisite(s): CWB 110 & CSC 116 or permission of instructor. Three credits.

### **MGD 254 MULTIMEDIA DESIGN AND PRODUCTION I**

Provides an overview of the development of interactive, computer-based media for presentational or instructional use. Selection of appropriate media, screen design, user interfaces, branching techniques, and other design aspects will be illustrated using a hands-on approach. Basic multimedia concepts will be addressed, including: production, authoring and authoring tools, software and hardware selection, media preparation and presentation. Three credits.

### **MGD 255 ADVANCED 3D MODELING/ANIMATION: LIGHTWAVE 3D**

Further examines LightWave's Layout program with an emphasis on animation and animation techniques. It also touches on LightWave's Layout program for setting up scenes with advanced procedural texture maps and lighting. Prerequisite(s): MGD 155 or permission of instructor. Three credits.

### **MGD 256 GRAPHIC DESIGN PRODUCTION**

Provides an opportunity to combine several draw and paint applications into one design and layout class. Students will explore advanced techniques in creating and designing computer art. Prerequisite(s): None. Three credits.

### **MGD 257 ANIMATION PRODUCTION**

Examines development of 3D animation from a production standpoint. The process of transforming conceptual designs into actual projects is explored. Students study the management function of those tasks associated with the business end of development. The student will produce a 3D animation project. Three credits.

### **MGD 258 WEB DESIGN PRODUCTION**

Stresses web site development and usability issues, as well as, pre-production, production and post-production concepts. Students will prepare project evaluations, objectives and analysis reports, project budgets and time-lines, content outlines, storyboards, and flow charts. Students will also examine interactive interface design for several Web applications. Projects will vary from semester to semester. Three credits.

### **MGD 260 GRAPHIC DESIGN PRODUCTION II**

Continues design and production techniques with further instruction in computer file set-up and creation of camera-ready art. Use of black and white and spot color for a variety of design projects. Prerequisite(s): MGD 256 or permission of instructor. Three credits.

### **MGD 262 GRAPHIC DESIGN PRODUCTION III**

Covers advanced study in design and production techniques and processes, including use of full color for publication design and book formats, advertising campaigns, business reply mail, promotional items, and editorial design. Prerequisite(s): MGD 260 or permission of instructor. Three credits.

### **MGD 266 DVD AUTHORIZING**

Introduces students to all aspects of DVD authoring: covering source acquisition, DVD production, interface design, organization, management and appropriate DVD output solution. Three credits.

### **MGD 267 GAME DESIGN II**

Explores more advanced features of game design. Students examine such things as integration of mainline code, subroutines and interrupts into game structure. I/O structure, playtesting and distribution are emphasized. Three credits.

### **MGD 268 COMMERCIAL ART BUSINESS**

Presents a guide to freelance work and a study of business practices and procedures unique to commercial art including billing rates, client management, business forms, employee management, taxes, licenses, registration, bid processes and self-promotion. Course may include visits by professionals in the field and discussion of career opportunities and professional organizations. Two credits.

### **MGD 269 MULTIMEDIA DESIGN AND PRODUCTION II**

Examines the leading authoring tool for interactive multimedia from the art director's perspective. Students will learn the basics of 2D animation for both computer presentations and the web. Interface design and scene development is emphasized. Hands-on projects include lingo scripts, behaviors, adding sound and digital video to student's movies. Prerequisite(s): MGD 254 or permission of instructor. Three credits.

### **MGD 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Permission of instructor is required. One to six credits.

### **MGD 278 SEMINAR/WORKSHOP**

Provides students with an experiential learning opportunity. One to six credits.

### **MGD 280 INTERNSHIP**

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. Prerequisite(s): MGD 256 or permission of instructor. One to six credits.

### **MGD 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Permission of instructor is required. One to six credits.

### **MGD 289 CAPSTONE**

A demonstrated culmination of learning within a given program of study. Prerequisite(s): FTV 208 or MGD 155 or MGD 164 or PHO 206 or RTV 269. One to six credits.

## **MOT: MEDICAL OFFICE TECHNOLOGY**

NOTE: Health related courses are found under the following prefixes: EMS (Emergency Medical Services), HHP (Holistic Health Professional), HPR (Health Professional), HWE (Health and Wellness), MOT (Medical Office Technology), NUA (Nurse Aide), NUR (Nursing), STE (Surgical Technology).

### **MOT 110 MEDICAL OFFICE ADMINISTRATION**

Introduces the administrative duties specifically used in medical offices. Prerequisite(s): co-enrollment of HPR 178 recommended. Four credits.

### **MOT 120 MEDICAL OFFICE FINANCIAL MANAGEMENT**

Covers the practical uses of accounts and records with emphasis on accounting principles and analysis for use in a medical office. Prerequisite(s): MOT 110 or permission of instructor. Three credits.

### **MOT 129 SURVEY OF SCIENCES FOR MEDICAL OFFICE ADMINISTRATION**

(Formerly: MOT 143) This course will prepare those seeking careers in the Medical Business Office, such as Reception, Billing, Coding, Insurance, and Transcription, with entry level applied knowledge in anatomy, physiology, pathophysiology, and pharmacology of all nine systems of the body. Prerequisite(s): HPR 178 or equivalent. Three credits.

### **MOT 130 INSURANCE BILLING AND CODING**

Introduces outpatient coding with an ultimate goal to present a clear picture of medical procedures and services performed (CPT codes), correlating the diagnosis, symptom, complaint or condition (ICD-9 codes), thus establishing the medical necessity required for third-party reimbursement. Prerequisite(s): None or permission of instructor. Three credits.

### **MOT 132 MEDICAL TRANSCRIPTION I**

Provides basic knowledge, understanding, and skills required to transcribe medical dictation with accuracy, clarity, and timeliness, applying the principles of professional and ethical conduct. Prerequisite(s): BTE 155 & HPR 178 with a grade of C or better or permission of instructor. Four credits.

### **MOT 136 INTRODUCTION TO CLINICAL SKILLS**

Provides hands on experience with the basic clinical skills required for assisting with patient care. Delivers the theory behind each skill presented as well as proper technique for performing each skill. Includes knowledge and/or performance of blood borne pathogens/OSHA regulations, medical asepsis, procedural gloving, patient gowning, positioning, and measurement of vital signs. Prerequisite(s): HPR 178 or equivalent & BIO 106 or taken concurrently. Two credits.

### **MOT 138 MEDICAL ASSISTING LABORATORY SKILLS**

Introduces the student to basic routine laboratory skills and techniques for collection, handling, and examination of laboratory specimens often encountered in the ambulatory care setting. Emphasizes hands-on experience. Prerequisite(s): MOT 136 or OSHA blood borne pathogens coursework, also need current HBV & tetanus immunization. Four credits.

### **MOT 140 MEDICAL ASSISTING CLINICAL SKILLS**

Provides hands on experience with the clinical skills required for assisting with patient care. Delivers the theory behind each skill presented as well as proper technique for performing each skill. Prerequisite(s): MOT 136. Four credits.

### **MOT 150 PHARMACOLOGY FOR MEDICAL ASSISTANTS**

Provides an overview of pharmacology language, abbreviations, systems of measurement and conversions. The Controlled Substances Act, prescriptions, forms of medications, patient care applications, drug classifications/ interactions, and safety in drug therapy and patient care are presented. Information regarding the measurement of medications, dosage calculations, routes of administration, and commonly prescribed drugs in the medical office is provided. Prerequisite(s): HPR 178 or equivalent, or taken concurrently. Three credits.

### **MOT 280 INTERNSHIP**

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. Prerequisite(s): Completed all MOT coursework or permission of instructor, current HBV, MMR, and Tetanus immunizations, current TB test and CPR card. One to six credits.

## **MUS: MUSIC**

### **MUS 100 FUNDAMENTALS OF MUSIC**

Designed to help the beginning music student, or those students with a limited background in music theory, study the basic elements of music, including notation, rhythm, scales, key signatures, intervals and chords. Three credits.

### **MUS 110 MUSIC THEORY I**

Presents music fundamentals, diatonic four-part harmony, analysis, ear training, and keyboard harmony. For music majors transferring to a 4-year program or students interested in composition. Co-requisite: MUS 112 must be taken at the same time. Three credits.

### **MUS 111 MUSIC THEORY II**

Presents chromatic four-part harmony, analysis, ear training, and keyboard harmony. Prerequisite(s): MUS 110; MUS 112. Co-requisite: MUS 113 must be taken at the same time. Three credits.

### **MUS 112 EAR TRAINING/SIGHT-SINGING LAB I**

Presents exercises in sight-singing with melodic and rhythmic dictation. Co-requisite: MUS 110 must be taken at the same time. One credit.

### **MUS 113 EAR TRAINING/SIGHT-SINGING LAB II**

Presents exercises in sight-singing with melodic and rhythmic dictation. Prerequisite: MUS 110 and 112. Co-requisite: MUS 111 must be taken at the same time. One credit.

### **MUS 120 MUSIC APPRECIATION**

Covers the basic materials of music, musical forms, media, genres and musical periods. Emphasizes the development of tools for intelligent listening and appreciation. This course is a state guaranteed transfer course GT-AH1. Three credits.

### **MUS 121 INTRODUCTION TO MUSIC HISTORY I**

Studies the various periods of music history with regard to the composers, esthetics, forms, and genres of each period. Considers music from the Middle Ages through the Classical period. This course is a state guaranteed transfer course GT-AH1. Three credits.

### **MUS 122 INTRODUCTION TO MUSIC HISTORY II**

Continues Music History I with a study of music from the early Romantic period to the present. This course is a state guaranteed transfer course GT-AH1. Three credits.

### **MUS 123 SURVEY OF WORLD MUSIC**

Provides an overview of non-Western music from around the world; provides basic listening skills and the historical/cultural context for a variety of world music styles to enable an understanding and appreciation of non-Western musical expression. Prerequisites: None. This course is a state guaranteed transfer course GT-AH1. Three credits.

### **MUS 141 PRIVATE INSTRUCTION: (SPECIFY)**

Two credits for music majors planning to transfer to 4 year school or students who wish to learn basic technique. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. Two credits.

### **MUS 142 PRIVATE INSTRUCTION: (SPECIFY)**

Two credits for music majors planning to transfer to 4 year school or students who wish to learn basic technique. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. Prerequisite(s): MUS 141. Two credits.

### **MUS 143 PRIVATE INSTRUCTION: (SPECIFY)**

Two credits for music majors planning to transfer to 4 year school or students who wish to learn basic technique. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. Prerequisite(s): MUS 142. Two credits.

**MUS 144 PRIVATE INSTRUCTION: (SPECIFY)**

Two credits for music majors planning to transfer to 4 year school or students who wish to learn basic technique. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. May be repeated for credit more than once per individual institution policy. Prerequisite(s): MUS 143. Two credits.

**MUS 151 ENSEMBLE I**

Rehearses and performs various types of musical literature in either a vocal ensemble or instrumental ensemble. One credit.

**MUS 152 ENSEMBLE II**

Rehearses and performs various types of musical literature in either a vocal ensemble or instrumental ensemble. One credit.

**MUS 153 ENSEMBLE III**

Rehearses and performs various types of musical literature in either a vocal ensemble or instrumental ensemble. One credit.

**MUS 161 ELECTRONIC/COMPUTER MUSIC I**

Provides each student with an understanding of how to write music on a personal computer using music engraving software. Three credits.

**MUS 165 MIDI I**

Allows people to create music easily with computers whether you are a musician or a novice. You will be creating music in a few class sessions on state-of-the-art computer, software, and sound generators. You can apply your understanding of MIDI to enhance your environment at work and at home. Some topics we will cover are: recording, editing, and playback with special sequencing software; notation software that will let you produce a copy of your musical piece/composition output; synchronization of your sound track so you may dub it onto a video tape or synchronize it with another sound output, such as a VCR, CD, etc., and other music related software and hardware possibilities. Two credits.

**MUS 175 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Zero to six credits.

**MUS 241 PRIVATE INSTRUCTION: (SPECIFY)**

Two credits for music majors planning to transfer to 4 year school or students who wish to learn basic technique. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. Prerequisite(s): MUS 144. Two credits.

**MUS 242 PRIVATE INSTRUCTION: (SPECIFY)**

Two credits for music majors planning to transfer to 4 year school or students who wish to learn basic technique. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. Prerequisite(s): MUS 241. Two credits.

**MUS 243 PRIVATE INSTRUCTION: (SPECIFY)**

Two credits for music majors planning to transfer to 4 year school or students who wish to learn basic technique. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. Prerequisite(s): MUS 242. Two credits.

**MUS 244 PRIVATE INSTRUCTION: (SPECIFY)**

Two credits for music majors planning to transfer to 4 year school or students who wish to learn basic technique. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. May be repeated for credit more than once per individual institution policy. Prerequisite(s): MUS 243. Two credits.

**MUS 251 ENSEMBLE I**

Rehearses and performs various types of musical literature in either a vocal ensemble or instrumental ensemble. Prerequisite(s): MUS 153. One credit.

**MUS 252 ENSEMBLE II**

Rehearses and performs various types of musical literature in either a vocal ensemble or instrumental ensemble. Prerequisite(s): MUS 251. One credit.

**MUS 253 ENSEMBLE III**

Rehearses and performs various types of musical literature in either a vocal ensemble or instrumental ensemble. Prerequisite(s): MUS 252. One credit.

**MUS 275 SPECIAL TOPICS**

Covers specific topics in music. This course is offered as needed for credit appropriate to the topic and each offering includes a description of the topic(s). Permission of department chair is required. One to three credits.

**MUS 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Permission of department chair is required. Zero to six credits.

**NUA: NURSE AIDE**

NOTE: Health related courses are found under the following prefixes: EMS (Emergency Medical Services), HHP (Holistic Health Professional), HPR (Health Professional), HWE (Health and Wellness), MOT (Medical Office Technology), NUA (Nurse Aide), NUR (Nursing), STE (Surgical Technology).

**NUA 101 NURSE AIDE HEALTH CARE SKILLS**

Prepares the student to perform the fundamental skills of the nurse aide. Basic nursing skills, communication skills, restorative services, personal care skills, safety and emergency care issues are covered in theory and lab. Includes knowledge and/or principles of asepsis, OSHA and HIPAA regulations. Ethical behaviors, cultural sensitivity and principles of mental health will be addressed, as well as patient/resident rights. Prerequisite(s): Accuplacer reading assessment of 60 or equivalent. Four credits.

**NUA 170 NURSE AIDE CLINICAL EXPERIENCE**

This course prepares the student to apply knowledge and skill gained in NUA 101 when caring for patients in a clinical setting. Prerequisite(s) NUA 101. One credit.

## **NUR: NURSING**

NOTE: Health related courses are found under the following prefixes: EMS (Emergency Medical Services), HHP (Holistic Health Professional), HPR Health Professional), HWE (Health and Wellness), MOT (Medical Office Technology), NUA (Nurse Aide), NUR (Nursing), STE (Surgical Technology).

### **HPR 108 DIETARY NUTRITION**

Studies the basic principles in clinical practice involved in the assistance of health care. The course will cover factors which influence the nutritional status of individuals, methods of nutritional assessment and support, and diet modification for specific disease states. T: 1cr/15 contact hours. One credit.

### **MAT 103 MATH FOR CLINICAL CALCULATIONS**

Provides a review of general mathematics, introductory algebra and an opportunity to learn systems of measurement and methods of solving problems related to drug dosage and intravenous fluid administration. It is designed for students in the health disciplines. Topics may include algebra, graphs, measurement and conversion between various systems of measurement. T: 3cr/45 contact hours. Three credits

### **NUR 106 MEDICAL AND SURGICAL NURSING CONCEPTS**

Introduces the student to the role of the nurse in assessing and meeting the medical and surgical nursing needs of adults across the life span in various health care settings. The student learns nursing concepts to assist the patient in achieving optimal functioning. Knowledge from foundational nursing, the sciences, pharmacology, and nutrition along with the continued integration of mental health and cultural concepts provides foundations for nursing care planning for medical and surgical clients. T: 3.5 cr./52.5 contact hrs; L: .5 cr./15 contact hrs; C: 5 cr./150 contact hrs. Nine credits.

### **NUR 109 FUNDAMENTALS OF NURSING**

Introduces theories and skills basic to the role of the nurse as provider of care, manager of care and member of the nursing profession. Emphasis is placed on introduction to critical thinking and the nursing process. Students will demonstrate a beginning level of competence in providing therapeutic nursing care for clients with common health alterations across the health continuum. T: 2 cr./30 contact hrs, L: 3 cr./90 contact hrs; C: 3 cr./90 contact hours. Eight credits.

### **NUR 112 BASIC CONCEPTS OF PHARMACOLOGY**

Utilizes nursing process to introduce the basic concepts of pharmacology related to the actions, therapeutic and adverse effects, interactions of drugs, drug classification, and the basic pharmacology of commonly used medications. Emphasis is placed on therapeutic interventions and client education. Learners will apply knowledge gained in selected clinical settings situations in caring for a diversity of clients across the lifespan health illness continuum. T: 2 cr./30 contact hours. Two credits.

### **NUR 150 OBSTETRIC & PEDIATRIC NURSING**

Provides a family centered approach to professional nursing practice of the childbearing family and children across the health continuum. Emphasis is placed on the care of the perinatal client and children from birth through adolescence. The impact of psychosocial and cultural values and practices are explored. Legal and ethical accountability are integrated throughout the course. T: 3 cr/45 contact hrs; L: 1 cr/30 contact hrs; C 3 cr/90 contact hrs. Seven credits.

### **NUR 169 TRANSITION INTO PRACTICAL NURSING**

Provide the student with a transition into the role of the practical nurse. Emphasis will be placed on distinguishing the practical nurses defined scope of practice related to clinical practice, communication, nursing process, ethical/legal issues and leadership skills. The student practices in the role of the practical nurse in the associated clinical experience. T: 2 cr/30 contact hrs; C: 3 cr/90 contact hrs. Five credits.

### **NUR 189 TRANSITION FROM LPN TO ADN**

Focuses on assisting the LPN to transition into a new role as an Associate Degree Nursing Student. Emphasis will be placed on roles and responsibilities of the ADN, nursing process, critical thinking, legal and ethical issues and nursing practice issues related to specialized skills and the care of special populations. The clinical focus will be care of the pediatric and obstetric client. T: 2 cr/30 contact hrs; L: .5 cr/15 contact hrs; C: 1.5 cr/45 contact hrs. Four credits.

### **NUR 206 ADVANCED CONCEPTS OF MEDICAL-SURGICAL NURSING I**

Focuses on the role of the registered professional nurse as care provider, teacher, manager, professional, and advocate in meeting the nursing needs of adults across the life span. Utilizing the nursing process, the student is expected to integrate previous learning to assist the patient and family in achieving optimal functioning in various health care settings. T: 3 cr/45 contact hrs; L: .5 cr/15 contact hrs; C: 4.5 cr/135 contact hrs. Eight credits.

### **NUR 211 NURSING CARE OF PSYCHIATRIC CLIENTS**

Develops concepts of psychosocial integrity and emphasizes the function and responsibility of nursing in promoting and maintaining mental health of individuals and families. This course emphasizes communication and caring through the application of the therapeutic relationship and nursing process in the care and treatment of common clinical conditions/disorders. T: 1 cr/15 contact hrs; L: 1 cr/30 contact hrs; C: 2 cr/60 contact hrs. Four credits.

### **NUR 212 PHARMACOLOGY II**

Builds upon the concepts introduced in NUR 112 Pharmacology I regarding the safe administration of medications to clients across the health continuum. Utilizing the nursing process the student demonstrates understanding of the role of the nurse as provider of care, manager of care, and member of the profession. Emphasis is placed upon the therapeutic use of medications in the nursing care of individuals with complex health needs. The student is introduced to the calculation of complex intravenous drip rates. T: 2 cr/30 contact hrs. Two credits

### **NUR 216 ADVANCED CONCEPTS OF MEDICAL-SURGICAL NURSING II**

Continues to focus on the role of the registered professional nurse as care provider, teacher, manager, professional, and advocate in meeting the complex medical and surgical health care needs of adult clients. Utilizing the nursing process, the student is expected to integrate previous learning to assist the patient and family in achieving optimal functioning in various complex health care situations and settings. T: 2 cr/30 contact hrs; C: 4 cr/120 contact hrs Prerequisite(s): NUR 206. Six credits.

### **NUR 230 LEADERSHIP MANAGEMENT TRENDS**

Introduces students to current trends in leadership and management concepts affecting the healthcare continuum and the practice of nursing. The student assumes the role of provider, manager of care and member of the discipline at the entry level into professional nursing. There is a practicum for application which may occur across

the healthcare continuum, as the student manages groups of clients and health care personnel. The course will facilitate transition from student to the role of the graduate nurse. T: 1.5 cr/22.5 contact hrs; C: 3.5 cr/105 contact hrs Five credits.

## **PED: PHYSICAL EDUCATION**

(Physically challenged students planning to register for a Physical Education class should contact the Physical Educational Department at 970.339.6295, no less than three days before registering to ensure access to and success in the chosen class.)

NOTE: Physical Education courses are found under the following prefixes: DAN (Dance), HWE (Health and Wellness), PED (Physical Education), PER (Physical Education and Recreation).

### **PED 100 BEGINNING GOLF**

Introduces a basic course in golf designed for those who have had little or no formal instruction or for those with some experience who are interested in improving some aspect of their game. Includes driving range, putting green, and possibly on-course play. One credit.

### **PED 102 VOLLEYBALL**

Introduces and improves student skill level in volleyball. The primary emphasis is on teaching the student the elements of volleyball including rules, offensive and defensive play, passing, serving, setting, attacking, team play and game strategies. One credit.

### **PED 103 SOFTBALL**

Introduces and improves skill level in softball. Emphasizes the elements of softball including rules of play, variations of play, equipment, skill technique, and offensive and defensive play and strategies. One credit.

### **PED 104 RACQUETBALL**

Introduces and improves the skill level in racquetball. Emphasizes teaching the student the elements of racquetball including rules, stroke technique, scoring, serving, the various shots, and offensive and defensive strategies. One credit.

### **PED 105 BASKETBALL**

Introduces basketball and focuses on improving student skill level. Emphasizes teaching the student the elements of basketball rules, offensive and defensive footwork, shooting, passing, dribbling, rebounding, team play, and game strategies. One credit.

### **PED 106 TENNIS**

Introduces tennis and focuses on improving the skill level of the student. Emphasizes the elements of tennis including the rules of the game, ground strokes, serving, the various shots, and singles and doubles play and strategies. One credit.

### **PED 107 SOCCER**

This class give the student the opportunity to gain knowledge and skills in the subject of soccer, including history, governing organizations, laws of the game, skills techniques, offensive and defensive tactics and conditioning. One credit.

### **PED 114 WALKING AND JOGGING**

Enables the student to understand the values in walking and jogging. Safety precautions and emphasis on personal programs are emphasized. One credit.

### **PED 115 BODY SCULPTING AND TONING**

Introduces exercise techniques to improve overall physical fitness. Emphasizes the interaction between cardiovascular conditioning, muscular strength and endurance, flexibility and program

design integrated into an aerobic format. Focuses on blending together different combinations and sequences of exercises while conditioning the entire body. Students exercise using various types of resistance equipment. One credit.

### **PED 116 WEIGHT TRAINING**

Offers basic instruction and practice in weight training. Students utilize weight training equipment in accordance to their abilities and goals. Emphasizes weight training equipment orientation, correct lifting techniques, and basic program design for men and women. One credit.

### **PED 117 CROSS TRAINING**

Introduces basic cross-training techniques designed to improve physical work capacity of an individual. Enables the student to gain an understanding of the basic principles of cross training, the effects cross training has upon the body's energy systems and muscles, program design and terminology. One credit.

### **PED 119 FITNESS CIRCUIT TRAINING**

Examines a number of different circuit training programs. Emphasizes the development of cardiovascular endurance, muscular strength and endurance, flexibility and a healthy body composition to meet individual needs. One credit.

### **PED 121 STEP AEROBICS**

Introduces basic step aerobics and exercise techniques to improve physical fitness. Emphasizes the basic principles of step aerobics including the effects upon the cardio-respiratory system and skeletal muscles, various step patterns and choreography. One credit.

### **PED 125 BOWLING**

Introduces bowling fundamentals to improve the student's skill level. The primary emphasis is on teaching the student the elements of bowling, rules and regulations, footwork, courtesies, delivery, selection of ball, scoring, and team and individual competition. One credit.

### **PED 126 WATER AEROBICS**

Offers water exercise to develop physical fitness. Includes instruction in a variety of water exercises and vigorous activities to develop cardiovascular and muscular endurance, flexibility and the promotion of body composition management. One credit.

### **PED 127 INTRO TO FLY FISHING**

Enables the student to gain the knowledge and skill of the fine art of flyfishing including the selection and use of appropriate equipment, fly-casting techniques, flyfishing entomology, and guiding techniques. One credit.

### **PED 143 TAI CHI I**

Introduces Tai Chi as an expression of understanding of self-control, exercise and self-defense. The primary emphasis is to gain an understanding of the history (origins and changes) of Tai Chi, the movements and their names, application of movements and terminology. One credit.

### **PED 144 TAI CHI II**

Emphasizes the instruction of Tai-Chi from a practical and scientific approach with illustrations of applications for each of the movements in daily life. Cardiovascular training, strength and flexibility training, balance and coordination are integral parts of the Tai-Chi training. In addition, psychosocial skills such as meditation, relaxation and self-efficacy are covered. One credit.

### **PED 145 PILATES MATWORK I**

A physical education class built upon the philosophies and exercises of Josef Pilates. The course will focus on Pilates matwork to increase core strength, overall muscles tone and flexibility with focused and precise floor work techniques. One credit.

### **PED 146 MARTIAL ARTS**

Introduces basic martial arts techniques and forms designed to improve the physical and mental capacity of an individual. Enables the student to gain an understanding of the basic philosophies and concepts around the martial arts and the approach to ethics. Provides a clear-cut guide for developing a powerful sense of character and will. One credit.

### **PED 147 YOGA**

Offers a guided instruction in yoga. Students practice yoga according to their individual fitness levels and abilities. Emphasizes enhancing general health and well-being through the performance of yoga strength, flexibility, balance and relaxation techniques and exercises. One credit.

### **PED 148 YOGA II**

Continues to build on the concepts of basic yoga. Increases awareness of yoga including physical and mental benefits. One credit.

### **PED 158 ARCHERY I**

To introduce the use of archery equipment, to learn the basic skills, safety precautions, and rules of archery. One credit.

### **PED 164 STRETCH 'N RELAX**

Teaches proper stretching techniques for all parts of the body, Static Stretched (No movement), gain knowledge of relaxation skills, learn how the body becomes more flexible through this class. One credit.

### **PED 168 CARDIO KICKBOXING AEROBICS I**

Burns fat and increases cardio respiratory endurance through Cardio Kickboxing, an innovative new interval training aerobics workout. This high intensity course will focus on basic kickboxing moves and technique through hi-low aerobics choreography and target striking. The course will also include floor work to focus on toning and flexibility. One credit.

### **PED 169 TONE AND CARDIO FUNK I**

Includes toning work including free weights, exercubes, ankle weights, and fit ball along with aerobic dance choreography that will be used to strengthen and tone. The routines will vary from class to class to include a cardio routine using hip hop and funk and a toning sequence to get an overall body workout. One credit.

### **PED 175 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

### **PED 200 ADVANCED GOLF**

Covers skills designed for individuals with an advanced level of golfing skills who are interested in improving their game. Driving range, putting green and on course instruction and play will be included. Use of woods, irons, wedges and putting will be stressed. All instruction will be by certified golf instructors. One credit.

### **PED 204 POWER VOLLEYBALL**

Introduces and improves student's advanced skills in volleyball. The primary emphasis is on teaching students quick offensives and advanced defensive systems in order to play volleyball at a competitive level. One credit.

### **PED 217 AEROBICS**

Offers a level of aerobic exercise to increase the student's aerobic endurance and further explains the components of aerobic conditioning. Charting and developing of cardiovascular rates are stressed. One credit.

### **PED 226 FITNESS WALKING**

This low impact, aerobic walking will build endurance while improving cardiovascular fitness and strengthening all major muscle groups. One credit.

### **PED 232 ULTIMATE FRISBEE**

Introduces and develops the basic techniques and strategies for Ultimate Frisbee. The class will use a tactical approach to teaching the basic of invasion game strategies, and develops basic forehand and backhand techniques for throwing and catching. The course will also develop fitness levels in terms of cardiovascular fitness. Ultimate Frisbee is a great way to stay active and work on increasing ones level of fitness. One credit.

### **PED 233 ZUMBA**

Zumba is a compilation of high energy, motivating music with unique moves and choreography combinations. Zumba fuses Latin and International music and dance themes to create a dynamic, exciting, effective fitness system. The routines feature aerobic/fitness interval training with a combination of fast and slow rhythms that tone and sculpt the body. Zumba utilizes the principles of fitness interval training and resistance training to maximize caloric output, fat burning and total body toning. It is a mixture of body sculpting movements with easy to follow dance steps. One credit.

### **PED 234 ICE SKATING**

Introduces and improve students skill level in ice skating. The primary emphasis is on teaching the students the elements of ice skating including skating technique, conditioning, safety, equipment and cardiovascular fitness. One credit

### **PED 235 ICE HOCKEY**

Introduces a basic course in hockey designed for those who have had little or no formal instruction or for those with some experience who are interested in improving some aspect of their game. The emphasis is on teaching the students the elements of ice hockey including skating technique, conditioning, safety and equipment. Includes stick handling, shooting and positional play One credit.

### **PED 245 INTERMEDIATE PILATES MATWORK II**

Builds upon the philosophies and exercises of Joseph Pilates. Pilates Matwork is a prerequisite, as this course builds upon basic techniques learned therein. Core strength, flexibility, overall muscle tone and balance are the goals of the matwork. One credit.

### **PED 268 CARDIO KICKBOXING AEROBICS II**

Progress from Cardio Kickboxing I to Cardio Kickboxing II, a natural progression from one class to the next. It involves more intermediate skills and a better understanding of body positioning and form. More focus will be placed on proper technique and overall improvement. Focus is placed on core strength and improved flexibility. One credit.

## **PER: PHYSICAL EDUCATION & RECREATION**

(Physically challenged students planning to register for a Physical Education class should contact the Physical Educational Department at 970.339.6295, no less than three days before registering to ensure access to and success in the chosen class.)

NOTE: Physical Education courses are found under the following prefixes: DAN (Dance), HWE (Health and Wellness), PED (Physical Education), PER (Physical Education and Recreation).

### **PER 232 CARE & PREVENTION OF ATHLETIC INJURIES**

(Formerly: HEN 120 Basic Prevention & Care Athletic Injury)  
Focuses on techniques in prevention, care and basic rehabilitation of athletic injury. Prerequisite(s): None. Three credits.

### **PER 242 ANALYSIS & TEACHING OF BASEBALL**

This class focuses on a study of the techniques and strategies of coaching competitive baseball to obtain background and understanding of rules and positions of umpiring baseball. Two credits.

## **PHI: PHILOSOPHY**

### **PHI 111 INTRODUCTION TO PHILOSOPHY**

Introduces significant human questions and emphasizes understanding the meaning and methods of philosophy. Includes human condition, knowledge, freedom, history, ethics, the future, and religion. This course is a state guaranteed transfer course GT-AH3. Three credits.

### **PHI 112 ETHICS**

Examines human life, experience, and thought in order to discover and develop the principles and values for pursuing a more fulfilled existence. Theories designed to justify ethical judgments are applied to a selection of contemporary personal and social issues. This course is a state guaranteed transfer course GT-AH3. Three credits.

### **PHI 113 LOGIC**

Studies effective thinking using language-oriented logic. Provides tools and develops skills for creative and critical thinking. Emphasizes the development of decision-making and problem-solving. This course is a state guaranteed transfer course GT-AH3. Three credits.

### **PHI 114 COMPARATIVE RELIGIONS**

(Formerly: PHI 115) Introduces students to the similarities and differences among concepts predominant in the major world religions, comparing sociological, philosophical, and phenomenological similarities between major world faiths. It is designed to transfer to any four-year college philosophy, religious studies or humanities department. This course is a state guaranteed transfer course GT-AH3. Three credits.

### **PHI 116 WORLD RELIGIONS EAST**

Emphasizes the diversity and richness of Eastern Religions within a cross-cultural context. Concepts such as fate, reincarnation, enlightenment and morality are analyzed. Three credits.

### **PHI 175 SPECIAL TOPICS**

(Formerly: PHI 135) Consists of specially offered courses as a response to interest or need. One to six credits.

## **PHI 214 PHILOSOPHY OF RELIGION**

Focuses on the critical examination of the fundamental concepts, ideas, and implications of religion. Includes the nature of God, the varieties of religious experience, argument concerning God's existence, the Problem of Evil, faith and reason, religion and human destiny, and the connection between religion and ethics. This course is a state guaranteed transfer course GT-AH3. Prerequisite(s): PHI 111 or PHI 114. Three credits.

## **PHY: PHYSICS**

NOTE: Science courses are listed under the following prefixes: AST (Astronomy), BIO (Biology), CHE (Chemistry), GEY (Geology), MET (Meteorology), PHY (Physics) and SCI (Science). All course prerequisite(s) for science courses must be complete with a grade of "C" or better.

### **PHY 105 CONCEPTUAL PHYSICS**

(A.A. Degree only) Focuses on mechanics, heat, properties of matter, electricity and magnetism, light and modern physics. Incorporates laboratory experience. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): MAT 099 or MAT 108. Four credits.

### **PHY 111 PHYSICS: ALGEBRA-BASED I WITH LAB**

(Formerly: PHY 111 & PHY 112) Enables the student to explore the truth about physical reality through reasoning, mathematics and experimentation. Examines kinematics, force, circular motion, energy, momentum, torque, rotational dynamics, simple harmonic motion, temperature, heat and thermodynamics. The concepts and theories presented are explored through demonstrations and hands-on laboratory experiments. It is a general physics course that is recommended for all of the health sciences and all other interested students. Students entering engineering or one of the advance sciences should register for PHY 211. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): MAT 121 or permission of instructor. (PHY 111 is only offered Fall semester.) Five credits.

### **PHY 112 PHYSICS: ALGEBRA-BASED II WITH LAB**

Expands upon PHY 111 and covers sound waves, electric fields, electric circuits, magnetic fields, optics, and modern physics. Explores the concepts and theories presented in class through demonstrations and hands-on laboratory experiments. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): PHY 111 or permission of instructor. (PHY 112 is only offered Spring semester.) Five credits.

### **PHY 211 PHYSICS: CALCULUS-BASED I WITH LAB**

Enables the student to examine the truth about physical reality through reasoning, mathematics and experimentation. Covers kinematics, force, gravity, energy, momentum, torque, rotational dynamics, fluids, waves, and thermodynamics. The concepts and theories presented in class are explored through demonstrations and hands-on laboratory experiments. This first semester calculus-based physics course is recommended for students entering engineering or one of the advance sciences. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): MAT 201 (preferred completed but may be concurrent) or permission of instructor. (PHY 211 is only offered Fall Semester.) Five credits.

### **PHY 212 PHYSICS: CALCULUS-BASED II WITH LAB**

Expands upon PHY 211 and examines electric fields, electric circuits, magnetic fields, light and optics, and modern physics. The concepts and theories presented in class are explored through demonstrations and hands-on laboratory experiments. This course is a state guaranteed transfer course GT-SC1. Prerequisite(s): MAT 202 (concurrent) and PHY 211 or permission of instructor. (PHY 212 is only offered Spring Semester.) Five credits.

## **PHY 275 SPECIAL TOPICS**

(Formerly: PHY 185) Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite(s): permission of instructor. One to six credits.

## **PHY 285 INDEPENDENT STUDY**

(Formerly: PHY 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Prerequisite(s): permission of instructor. One to six credits.

## **POS: POLITICAL SCIENCE** **PRO 105 INTRODUCTION TO POLITICAL SCIENCE**

Focuses on a survey of the discipline of political science, including political philosophy and ideology, democratic and non-democratic governments, and processes, and international relations. This course is a state guaranteed transfer course GT-SS1. Three credits.

## **POS 111 AMERICAN GOVERNMENT**

Includes the background of the U.S. Constitution, the philosophy of American government, general principles of the Constitution, federalism, and civil liberties. Examines public opinion and citizen participation, political parties, interest groups, and the electoral process, and the structure and functions of the national government. This course is a state guaranteed transfer course GT-SS1. Three credits.

## **POS 205 INTERNATIONAL RELATIONS**

Examines relationships among modern nation states. Topics include diplomacy, nationalism, ideologies, power and influence, conflict and cooperation, the role of non-state actors, the international economy and theoretical attempts to understand international behavior. This course is a state guaranteed transfer course GT-SSI. Three credits.

## **POS 225 COMPARATIVE GOVERNMENT**

Focuses on a comparison of the basic features of selected developed and developing countries. Topics include ideologies, political parties, interest groups, and governmental institutions. This course is a state guaranteed transfer course GT-SSI. Three credits.

## **POS 285 INDEPENDENT STUDY**

(Formerly: POS 299) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **PRO: PROCESS TECHNOLOGY** **PRO 100 INTRODUCTION TO PROCESSING TECHNOLOGY**

Provides an overview or introduction into the field of Process Operations within the process industry. The course will introduce the roles and responsibilities of process technicians, the environment in which they work, and the equipment and systems in which they operate. Three credits.

## **PRO 120 PROCESS TECHNOLOGY I: EQUIPMENT**

Provides an overview or introduction into the field of equipment within the process industry. This course will introduce many process industry-related equipment concepts including purpose, components, operation, and the Process Technician's role for operating and troubleshooting the equipment. Four credits.

## **PRO 130 INSTRUMENTATION I**

Provides an introduction into the field of Instrumentation and covers process variables and the various instruments used to sense, measure, transmit and control these variables. The course also introduces control loops and the elements that are found in different types of loops, such as controllers, regulators and final control elements. The course concludes with a study of instrumentation drawings and diagrams and a unit on troubleshoot instrumentation. Three credits.

## **PSY: PSYCHOLOGY**

NOTE: Psychology, counseling, and career courses are found under the following prefixes: COM (Communication), CSL (Counseling), PSY (Psychology).

## **PSY 100 PSYCHOLOGY OF WORKPLACE RELATIONSHIPS**

Focuses on interactions among people – their conflicts, cooperative efforts, and group relationships. Examines why beliefs, attitudes, and behaviors cause relationship problems in our personal lives and in work-related situations. Emphasizes the analysis of human behavior, the application of prevention strategies, and resolution of the behavior. Three credits.

## **PSY 101 GENERAL PSYCHOLOGY I**

Focuses on the scientific study of behavior including motivation, emotion, physiological psychology, stress and coping, research methods, consciousness, sensation, perception, learning and memory. This course is a state guaranteed transfer course GT-SS3. Three credits.

## **PSY 102 GENERAL PSYCHOLOGY II**

Focuses on the scientific study of behavior including cognition, language, intelligence, psychological assessment, personality, abnormal psychology, therapy, life span development, and social psychology. This course is a state guaranteed transfer course GT-SS3. Three credits.

## **PSY 110 CAREER DEVELOPMENT**

Assists the student in recognizing their career potential, and provides tools for making realistic decisions concerning educational and occupational objectives. Three credits.

## **PSY 112 PSYCHOLOGY OF ADJUSTMENT**

Emphasizes personal growth and the development of interpersonal skills. Focuses on the practical application of psychological principles and theories in achieving self-understanding and personal growth. Three credits.

## **PSY 116 STRESS MANAGEMENT**

Identifies the physiological, emotional and behavioral aspects of stress. Techniques of stress reduction and management are explored and applied, including nutrition, exercise, assertiveness, time management, and financial management. This course is not designed for transfer. Three credits.

## **PSY 204 RELATIONSHIPS: CHALLENGES AND CHOICES**

Enables the student to preserve and enhance couple relationships by understanding the role of gender differences, conflict patterns, communication skills, problem solving, and the meaning of commitment, fun, and friendship. One credit.

## **PSY 205 PSYCHOLOGY OF GENDER**

Examines gender differences in work, courtship, family life, and sexual behavior throughout the life span. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **PSY 205 PSYCHOLOGY OF GENDER**

Examines gender differences in work, courtship, family life, and sexual behavior throughout the life span. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **PSY 206 PSYCHOLOGY OF WOMEN**

Examines various psychological issues that specifically concern the welfare of women. It will explore sociocultural influences that contribute to or undermine the development of psychological wellbeing in women. It also investigates the differences and similarities between men and women and the effects of gender in social situation. Finally, it addresses gender comparison in work, courtship, family life and sexual behavior throughout the life span. Through this course students recognize the influence of women on human experiences and relationships. Students develop critical thinking skills through the evaluation of current research findings and apply the knowledge to foster gender equality. Three credits.

### **PSY 217 HUMAN SEXUALITY**

Surveys physiological, psychological, and psychosocial aspects of human sexuality. Topics include relationships, sexual identity, and sexual health. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **PSY 226 SOCIAL PSYCHOLOGY**

Focuses on the behavior of humans in social settings including attitudes, aggression, conformity, cooperation and competition, prejudice, and interpersonal attraction. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **PSY 227 PSYCHOLOGY OF DEATH AND DYING**

Examines the philosophies of life and death, emphasizing dying, death, mourning, and the consideration of one's own death. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **PSY 229 INTRODUCTION TO ADDICTIVE BEHAVIOR**

Focuses on addictive behavior and its effect on individuals, families, and society. Two credits.

### **PSY 230 BASIC HUMAN POTENTIAL**

Focuses on the self-actualization principles of psychologists, Abraham Maslow and Herbert Otto. Students engage in structured activities designed to develop skills for understanding and improving self-motivation and self-determination in a variety of relationships.

### **PSY 235 HUMAN GROWTH AND DEVELOPMENT**

Examines human development from conception through death emphasizing physical, cognitive, emotional and psychosocial factors. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **PSY 236 ASSERTIVENESS TRAINING**

Teaches the awareness and expressions of individual rights and needs in interpersonal relationships. One credit.

### **PSY 238 CHILD DEVELOPMENT**

Focuses on the growth and development of the individual from conception through childhood, emphasizing physical, cognitive, emotional, and psychosocial factors. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **PSY 240 HEALTH PSYCHOLOGY**

Students will learn an overview of the scientific study of attitudes, behaviors and personality variables related health, illness and bodily systems. Emphasis is on the interaction of biological, psychological and social factors that cause illness and influence its treatment and prevention. Three credits.

### **PSY 249 ABNORMAL PSYCHOLOGY**

Examines abnormal behavior and its classification, causes, treatment, and prevention. This course is a state guaranteed transfer course GT-SS3. Prerequisite(s): PSY 101 or PSY 102 or instructor approval. Three credits.

### **PSY 250 DYNAMICS OF RACISM AND PREJUDICE**

Focuses on early race relations in the United States, the development of prejudicial attitudes and the social impact, and strategies for positive change. Three credits.

### **PSY 257 PSYCHOLOGICAL ASPECTS OF ABUSE IN RELATIONSHIPS**

Focuses on psychosocial factors contributing to both abusive and victimization behaviors in a variety of relationships. Two credits.

### **PSY 258 INTRODUCTION TO NEUROPSYCHOLOGY**

Focuses on introduction to basic neuropsychological terms and concepts with emphasis on application of thinking and behavior in humans. Prerequisite(s): PSY 101 OR PSY 102. Three credits.

### **PSY 267 STRESS REDUCTION WITH BIOFEEDBACK**

Focuses on the biological and psychological basis of stress and the detrimental effects it may have on health. Emphasizes learning and applying stress reduction skills which are monitored with simple biofeedback instruments. Three credits.

### **PSY 268 ORGANIZATIONAL PSYCHOLOGY**

Provides a comprehensive study of psychological principles and theories as applied to organizational behavior. Topics include motivation, job satisfaction, conflict supervision, human relations and stress management. Three credits.

### **PSY 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **PSY 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

### **COM 101 EMPLOYMENT STRATEGIES**

Listed in the COM course section.

## **REA: READING**

\*This course will not satisfy minimum nor elective requirements for the A.A. or A.S. degrees.

### **REA 030 BASIC READING SKILLS**

Focuses on strategies for word attack, vocabulary development, stages of reading and basic reading comprehension. Prerequisite(s): Placement test. Students must pass REA 030 with a grade of "C" or better for placement into REA 060. Two credits.

### **\*REA 060 FOUNDATIONS OF READING**

Focuses on strategies for vocabulary development, improved reading comprehension, and enrichment. Prerequisite(s): Placement test or successful completion of REA 030. Students must pass REA 060 with a grade of "C" or better for placement into REA 090. Three credits.

### **\*REA 090 COLLEGE PREPARATORY READING**

Enables the student to apply strategies for improving comprehension, developing vocabulary, and increasing rate for reading college textbooks. Prerequisite(s): Placement test or successful completion of REA 060. Students must pass REA 090 with a grade of "C" or better to complete the reading sequence. Three credits.

### **\*REA 112 SPEED READING**

Improves reading comprehension and speed of reading for students who want to enhance skills for success in college or career environments. Prerequisite(s): Placement test or successful completion of REA 090. Two credits.

## **RTE: RADIOLOGIC TECHNOLOGY**

### **RTE 101 INTRODUCTION TO RADIOGRAPHY**

Provides an introduction to radiology including equipment, exposure, positioning and the knowledge necessary for the radiography student to provide safe patient care including communication skills, body mechanics, patient transfer, radiography as a profession, and medical legal issues. Prerequisite: Permission of department chair. Two credits.

### **RTE 111 RADIOGRAPHIC PATIENT CARE**

Provides expansion of the information presented in RTE 101, including diversity, universal precautions, legal considerations and ethics. Includes lecture and laboratory experience in the patient care areas of asepsis, vital signs, venipuncture, medical emergencies, assistance with drug administration, patient with special needs, death and dying, body mechanics and patient transfer techniques. Prerequisite(s): RTE 101 or permission of department chair. Two credits.

### **RTE 121 RADIOLOGIC PROCEDURES I**

Introduces fundamentals of radiographic positioning including use of radiographic equipment and safety, positioning, terminology, anatomy, pathology, and skills necessary to perform radiographic procedures of the chest, abdomen, upper extremity, gastrointestinal and urinary systems. Prerequisite(s): RTE 101 or permission of department chair. Three credits.

### **RTE 122 RADIOLOGIC PROCEDURES II**

Introduces additional material covered in RTE 121 including the knowledge of anatomy, pathology, and skills necessary to perform radiographic procedures of the lower extremity, pelvis, spine, and bony thorax. Prerequisite(s): RTE 121 or permission of department chair. Three credits.

### **RTE 131 RADIOGRAPHIC PATHOLOGY AND IMAGE EVALUATION I**

Provides a detailed anatomic discussion of the respiratory, digestive, genitourinary systems and related medical terminology. The course will also cover the details of bony anatomy including bone structure, pathology and arthrology. Prerequisite(s): RTE 101 or permission of department chair. One and one-half credits.

### **RTE 132 RADIOGRAPHIC PATHOLOGY AND IMAGE EVALUATION II**

Provides a detailed anatomic/pathologic discussion of the spine, circulatory system, nervous system, and skull and related medical terminology. Prerequisite(s): RTE 131 or permission of department chair. One and one-half credits.

### **RTE 141 RADIOGRAPHIC EQUIPMENT/IMAGING I**

Introduces the fundamental aspects of radiographic equipment including a basic review of physics fundamentals pertaining to x-ray production, the x-ray machine, image receptors, and control of scatter radiation. Prerequisite(s): RTE 101 or permission of department chair. Three credits.

### **RTE 142 RADIOGRAPHIC EQUIPMENT/IMAGING II**

Expands information covered in RTE 141 and provides in-depth knowledge of radiographic exposure and the factors that effect radiographic film quality and assurance. Prerequisite(s): RTE 141 or permission of department chair. Three credits.

### **RTE 181 RADIOGRAPHIC INTERNSHIP I**

Introduces the clinical education experience at the clinical education site. The student applies knowledge learned in the classroom to the actual practice of radiography. Prerequisite(s): RTE 101 or permission of department chair. Five credits.

### **RTE 182 RADIOGRAPHIC INTERNSHIP II**

Introduces additional concepts and more complex radiographic procedures than those learned in Clinical Internship I. Prerequisite(s): RTE 181 or permission of department chair. Five credits.

### **RTE 183 RADIOGRAPHIC INTERNSHIP III**

Reinforces the basic concepts of Clinical Internship I & II. Prerequisite(s): RTE 182 or permission of department chair. Seven credits.

### **RTE 221 ADVANCED MEDICAL IMAGING**

Introduces advanced imaging techniques including radiography of the cranium, facial bones and special radiographic procedures. These concepts are combined with the basic oral communication techniques necessary for the professional radiographer. Prerequisite(s): RTE 122 and RTE 142 or permission of department chair. Three credits.

### **RTE 231 RADIATION BIOLOGY/PROTECTION**

Provides the basic knowledge and understanding of the biologic effects of ionizing radiation and radiation protection and safety. Prerequisite(s): Permission of department chair. Two credits.

### **RTE 250 MAMMOGRAPHY**

Introduces the fundamentals of mammography as required for ARRT mammography certification. Prerequisite(s): Must be RTR or permission of department chair. Three credits.

### **RTE 281 RADIOGRAPHIC INTERNSHIP IV**

Introduces the student to the radiographic specialty areas of pediatrics, geriatrics, the out-patient clinic, as well as increasing proficiency in general radiography Prerequisite(s): RTE 183 or permission of department chair. Eight credits.

### **RTE 282 RADIOGRAPHIC INTERNSHIP V**

Introduces the student to the radiographic specialty areas of pediatrics, geriatrics, the out-patient clinic, portable and trauma radiography as well as increasing proficiency in general radiography. Prerequisite: RTE 281 or permission of department chair. Eight credits.

### **RTE 289 CAPSTONE**

Prepares the radiologic technology student to effectively search for a job in radiography & sit for the American Registry of Radiologic Technology examination. Prerequisite(s): Permission of department. Three credits.

### **RTE 291 MAMMOGRAPHY CLINICAL**

Provides clinical experience for demonstrating and documenting clinical competencies required by the American Registry of Radiologic Technologist for application for registry examination. Prerequisite(s): Must be RTR or permission of Department Chair. Three credits.

## **RTV: RADIO & TELEVISION**

### **RTV 101 RADIO PROGRAMMING AND PRODUCTION I**

Focuses on radio programming, formats and audience rating survey, basic and sophisticated communications systems, history of broadcasting, broadcasting and production equipment, and program broadcast systems and propaganda. Three credits.

### **RTV 103 WRITING FOR TV AND RADIO**

Explores writing techniques for television and radio emphasizing professional techniques, format and style. Three credits.

### **RTV 104 CORPORATE SCRIPTWRITING**

Focuses on script-writing formats and techniques as they apply to creating corporate and institutional video productions and other broadcast and non-broadcast media productions. Three credits.

### **RTV 107 TELEVISION STUDIO PRODUCTION**

Examines principles and techniques of basic television production and direction in a laboratory setting using commercial television broadcast equipment for broadcast and institutional video productions. Three credits.

### **RTV 108 PRINCIPLES OF AUDIO**

Focuses on basic audio production techniques to be used in media production. Includes the use of basic audio equipment and mixer to produce audio tracks for radio and television production. Three credits.

### **RTV 136 BROADCAST ANNOUNCING**

Introduces the field of broadcast announcing, including the techniques and proficiencies involved in announcing for radio and television. Students will acquire practice in announcing and narration with an emphasis on voice, diction, writing and performance. Three credits.

### **RTV 210 AUDIO MIXING**

Includes the fundamentals of audio mixing from the audio source to final master. By explaining the principles of mixing and the technical foundations of audio recording. Analyzing the principles of acquiring, manipulating, recording, and final mixing of audio and discussing the differences between digital and analog recording. Each student will summarize the function of microphones, audio sources, recording devices, and speakers and complete recording exercises and projects according to provided guidelines. Demonstration of linear and non-linear master mixing will also be required. Prerequisite(s): RTV 108 or permission of instructor. Three credits.

### **RTV 211 RADIO PROGRAMMING & PRODUCTION II**

Focuses on styles of writing and reporting news, editorials, interviews, and commentaries; station logs and announcing styles and techniques; the Federal Communications Commission with emphasis on politics and serving the public interest; job finding and advancing in broadcasting; women in broadcasting; drama; and specialized production. Includes sportscasting and weathercasting. Prerequisite(s): RTV 101 or permission of instructor. Three credits.

### **RTV 212 ADVANCED TELEVISION PRODUCTION**

Introduces additional principles and techniques of television production in theory and the approach of studio and production in news, weather and sports. Emphasizes direction and production development to include single and multi-camera production. Examines use of effects and chromakeying. Includes laws and ethics governing the television broadcast industry and Institutional Television. Prerequisite(s): RTV 107 or permission of instructor. Three credits.

### **RTV 241 CABLE TV BROADCASTING I**

Synthesizes knowledge and experience gained in Introduction to Television Studio Production (RTV 107) in a real-life television studio production scenario. The end product will be a weekly cable TV program. Prerequisite(s): RTV 107 or permission of instructor. Three credits.

### **RTV 242 CABLE TV BROADCASTING II**

Synthesizes knowledge and experience gained in Advanced Television Production (RTV 212). Students will produce regularly-scheduled television programs as part of a production unit in a studio and on-location production environment. The end product will be a weekly cable TV program. Prerequisite(s): RTV 107, RTV 241 or permission of instructor. Three credits.

### **RTV 243 CABLE TV BROADCASTING III**

Students will manage the production of a regularly scheduled television program as part of a TV production team unit in a studio and remote shooting environment. The end product will be a weekly cable TV program. Prerequisite(s): RTV 107, RTV 212, RTV 241, RTV 242 or permission of instructor. Three credits.

### **RTV 260 BROADCAST MANAGEMENT**

Introduces the field of broadcast management as applied to day-to-day radio and television station operations, broadcast law, broadcast promotion, sales, research, ratings, logs, demographics and human relations in the broadcast workplace and arena. Prerequisite(s): JOU 105 or permission of instructor. Three credits.

### **RTV 269 VIDEO FIELD PRODUCTION**

Prepares students for production of professional-quality video programming. Students will be afforded the opportunity to attain proficiency in single-camera remote videography, as well as post-production editing and recording engineering. Prerequisite(s): RTV 107, RTV 212 or permission of instructor. Three credits.

### **RTV 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **RTV 278 ELECTRONIC MEDIA PORTFOLIO PRESENTATION**

Provides students with an experiential learning experience (portfolio design and presentation).

### **RTV 280 INTERNSHIP: TV STUDIO/VIDEO PRODUCTION II**

Provides experience in a commercial television station or allied industry. One to six credits.

### **RTV 283 INTERNSHIP: RADIO/AUDIO PRODUCTION**

Incorporates advanced experience in a commercial radio station or allied industry. One to six credits.

### **RTV 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to three credits.

### **RTV 289 CAPSTONE**

A demonstrated colmination of learning within a given program of study. One to six credits.

## **RUS: RUSSIAN**

NOTE: World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

### **RUS 101 CONVERSATIONAL RUSSIAN I**

Introduces beginning student to conversational Russian and focuses on understanding and speaking Russian. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

### **RUS 111 RUSSIAN LANGUAGE I**

Begins a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the Russian language. **NOTE:** The order of the topics and methodology will vary according to individual texts and instructors. Five credits.

### **RUS 112 RUSSIAN LANGUAGE II**

Continues Russian I in the development of functional proficiency in listening, speaking, reading and writing the Russian language. **Note:** The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): RUS 111 with a grade of C or better or permission of instructor. Five credits.

### **RUS 211 RUSSIAN LANGUAGE III**

Continues Russian Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Russian language. **Note:** The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): RUS 112 with a grade of C or better or permission of instructor. This course is a state guaranteed transfer course GT-AH4. Three credits.

### **RUS 212 RUSSIAN LANGUAGE IV**

Continues Russian Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the Russian language. **Note:** The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): RUS 211 with a grade of C or better or permission of instructor. This course is a state guaranteed transfer course GT-AH4. Three credits.

### **RUS 285 INDEPENDENT STUDY**

(Formerly: RUS 195) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **SCI: SCIENCE**

**NOTE: Science courses are listed under the following prefixes: AST (Astronomy), BIO (Biology), CHE (Chemistry), GEY (Geology), MET (Meteorology), PHY (Physics) and SCI (Science). All course prerequisite(s) for science courses must be complete with a grade of "C" or better.**

### **SCI 155 INTEGRATED SCIENCE I – PHYSICS AND CHEMISTRY**

(A.A. Degree only) Examines the nature of energy and matter, their interactions and changes, and the application of fundamental concepts to the study of our natural world. These concepts will be explored in hands-on laboratory experiments. This course integrates the fundamental concepts and ideas about the nature of physics and chemistry with the natural world. Integrated Science is a course that helps the student develop an appreciation of the beauty of science and how physics and chemistry play an important role in their everyday lives, from driving a car, reading their energy bill to cooking. Students will expand their scientific knowledge and skills through the laboratory experience, doing scientific experiments and investigations. This course is a state guaranteed transfer course GT-SCI1. Must have both SCI 155 and SCI 156 for graduation. Prerequisites: MAT 099. Four credits.

### **SCI 156 INTEGRATED SCIENCE II – EARTH AND LIFE SCIENCE**

(A.A. Degree only) Students are exposed to a synthesis of geology and biology. Topics covered include the origins of the planet and life upon it, interactions between climatology and life, how to interpret land forms and the implications, basic mineralogy, basic

biological chemistry, cell structure and metabolism, and other areas of interface between the two disciplines. Students will expand their scientific knowledge and skills through the laboratory experience, doing scientific experiments and investigations. This course is a state guaranteed transfer course GT-SCI1. Must have both SCI 155 and SCI 156 for graduation. Prerequisites: MAT 099. Four credits.

## **SOC: SOCIOLOGY**

### **SOC 101 INTRODUCTION TO SOCIOLOGY I**

Examines the basic concepts, theories, and principles of sociology as well as human culture, social groups, and the social issues of age, gender, class, and race. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **SOC 102 INTRODUCTION TO SOCIOLOGY II**

Examines social institutions and organizations from the macro perspective. Emphasizes issues of social change, demography, social movements, and conflicts and trends within education, religion, family, political, and economic structures. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **SOC 205 SOCIOLOGY OF FAMILY DYNAMICS**

Develops an understanding of marriage, family and kinship. It examines the family as an institution and how social, cultural and personal factors influence family relations. The stability and diversity of the family will be explored, along with current trends and some alternative life styles. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **SOC 215 CONTEMPORARY SOCIAL PROBLEMS**

Explores current social issues that result in societal problems. It focuses on such issues as civil liberties, gender discrimination, substance abuse, crime, poverty, and social change. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **SOC 216 SOCIOLOGY OF GENDER**

Gives students the theoretical and factual background necessary to understand the phenomenon of gender stratification in American and other cultures. Students will be exposed to a history of gender stratification in human societies, theoretical explanations for this and insights into the consequences of gender differentiation in our world today. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **SOC 218 SOCIOLOGY OF DIVERSITY**

Explores the variety of intergroup relations regarding race, nationality, ethnicity, gender, sexual orientation, and other diversity issues. Patterns of prejudice, discrimination and possible solutions to these issues will be addressed. Three credits.

### **SOC 231 SOCIOLOGY OF DEVIANT BEHAVIOR**

Examines the nature, identification, and explanation of deviant categories. Theories, and philosophies as well as methods of treatment related to deviancy will also be considered. The course will study society's attempts to control, change, and institutionalize those acts, individuals or groups that a population may deem unacceptable. This course is a state guaranteed transfer course GT-SS3. Three credits.

### **SOC 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. One-half to six credits.

## **SOC 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **SPA: SPANISH**

**NOTE:** World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

### **SPA 101 CONVERSATIONAL SPANISH I**

Offers beginning students the skills necessary to understand and speak Spanish. The material includes basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

### **SPA 102 CONVERSATIONAL SPANISH II**

Offers students the skills necessary to understand and speak Spanish. The material continues to cover basic conversations patterns, expressions, and grammar. Prerequisite(s): SPA 101 or permission of instructor. Three credits.

### **SPA 111 SPANISH LANGUAGE I**

(Formerly: SPA 111 and SPA 112) Deals with the development of functional proficiency in listening, speaking, reading and writing the Spanish language. Note: The order of the topics and methodology will vary according to individual texts and instructors. Five credits.

### **SPA 112 SPANISH LANGUAGE II**

(Formerly: SPA 112 and SPA 113) Continues Spanish Language I in the development of functional proficiency in listening, speaking, reading and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. Prerequisite(s): SPA 111 with a grade of C or better or permission of instructor. Five credits.

### **SPA 115 SPANISH FOR THE PROFESSIONAL I**

(Formerly: SPA 225) Designed as an introduction to a working knowledge of the target language, cultural behaviors and values useful in various professional fields such as health care, law enforcement, bilingual education, business, and others. Three credits.

### **SPA 175 SPECIAL TOPICS**

(Formerly: SPA 135) Provides students with a vehicle to pursue in depth exploration of special topics of interest. One to six credits.

### **SPA 201 CONVERSATIONAL SPANISH III**

Provides students with the skills necessary to continue their study of understanding and speaking Spanish. The material includes intermediate level vocabulary, grammar, and expressions. Prerequisite(s): SPA 102 or permission of instructor. Three credits.

### **SPA 202 CONVERSATIONAL SPANISH IV**

Provides students the skills necessary to continue their study of understanding and speaking Spanish. The material will continue to cover intermediate level conversational patterns, expressions, and grammar. Prerequisite(s): SPA 201 or permission of instructor. Three credits.

### **SPA 211 SPANISH LANGUAGE III**

Continues Spanish Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Spanish language. **NOTE:** The order of the topics and the methodology will vary according to individual texts and instructors.

SPA 211 and SPA 212 can be taken out of sequence. Prerequisite(s): SPA 112 with a grade of C or better or permission of instructor. This course is a state guaranteed transfer course GT-AH4. Three credits.

### **SPA 212 SPANISH LANGUAGE IV**

Continues Spanish Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the Spanish language. **NOTE:** The order of the topics and the methodology will vary according to individual texts and instructors. SPA 212 and SPA 211 do not have to be taken in sequence. Prerequisite(s): SPA 112 with a grade of C or better or permission of instructor. This course is a state guaranteed transfer course GT-AH4. Three credits.

### **SPA 235 SPANISH READING-WRITING**

Builds vocabulary and develop reading and writing strategies in Spanish to be able to analyze fictional and non-fictional texts and gain further cultural insight of the Hispanic world. Three credits.

### **SPA 261 GRAMMAR FOR THE HERITAGE LANGUAGE SPEAKER**

Provides formal grammatical instruction to Foreign Language students whether native or bilingual who want to develop their existing proficiency in the target language. Three credits.

### **SPA 285 INDEPENDENT STUDY**

(Formerly: SPA 295) Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. One to six credits.

## **SPE: SPEECH**

SPE (Speech) is now located under COM (Communication).

## **STE: SURGICAL TECHNOLOGY**

**NOTE:** Health related courses are found under the following prefixes: EMS (Emergency Medical Services), HHP (Holistic Health Professional), HPR (Health Professional), HWE (Health and Wellness), MOT (Medical Office Technology), NUA (Nursing Assistant), NUR (Nursing), STE (Surgical Technology).

### **STE 100 FUNDAMENTALS OF SURGICAL TECHNOLOGY**

Emphasizes the theoretical basis of surgical technology practice. Prerequisite(s): HPR 178, BIO 201, BIO 202. Six credits.

### **STE 101 SURGICAL TECHNOLOGY SKILLS LAB**

Provides the opportunity to learn and practice basic surgical technology skills. Prerequisite(s): STE 100 or concurrently. Four credits.

### **STE 105 PHARMACOLOGY FOR THE SURGICAL TECHNOLOGIST**

Covers basic surgical pharmacology including the metric system, pharmacology theory, surgical drugs, and aspects of anesthesia. Prerequisite(s): HPR 178, BIO 201, BIO 202. Two credits.

### **STE 110 SURGICAL PROCEDURES I**

Covers the principles and skills required to assist in procedures in the following surgical specialties: general and gastrointestinal, obstetrics/gynecology, and genitourinary. Prerequisite(s): BIO 205 or taking concurrently, and all previous term program requirements. Three credits.

### **STE 115 SURGICAL PROCEDURES II**

Covers the principles and skills required to assist in procedures in the following surgical specialties: orthopedic, ophthalmology, otorhinolaryngology, head/neck, and plastic/reconstructive. Prerequisite(s): STE 110. Three credits.

## **STE 120 SURGICAL PROCEDURES III**

Covers the principles and skills required to assist in procedures for peripheral vascular, cardiovascular, thoracic, and neurosurgical procedures. Prerequisite(s): STE 115. Three credits.

## **STE 181 INTERNSHIP I**

Allows students to integrate theoretical concepts in a clinical surgical setting. Prerequisite(s): STE 110, Current HBV, MMR & tetanus immunizations, Current TB test and CPR card. Four credits.

## **STE 182 INTERNSHIP II**

Allows students to integrate advanced theoretical concepts in a clinical surgical setting. Prerequisite(s): STE 115, Current HBV, MMR & tetanus immunizations, Current TB test and CPR card. Four credits.

## **STE 183 INTERNSHIP III**

Allows students to integrate advanced theoretical concepts in a clinical surgical setting. Prerequisite(s): STE 120, Current HBV, MMR & tetanus immunizations, Current TB test and CPR card. Six credits.

## **STE 275 SPECIAL TOPICS**

Provides students with a vehicle to pursue in depth exploration of special topics of interest. Prerequisite(s): All STE level 100 coursework. Two credits.

## **SWE: SWEDISH**

**NOTE:** World Language courses are listed under the following prefixes: ARA (Arabic), ASL (American Sign Language), CHI (Chinese), FRE (French), GER (German), ITA (Italian), JPN (Japanese), RUS (Russian), SPA (Spanish), SWE (Swedish).

## **SWE 101 CONVERSATIONAL SWEDISH I**

Introduces beginning students to conversational Swedish and focuses on understanding and speaking Swedish. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel. Three credits.

## **TEL: TEACHING ENGLISH AS A SECOND LANGUAGE**

### **TEL 102 PROCEDURES AND TECHNIQUES FOR THE ESL CLASSROOM**

Focuses on the teaching of English grammar, speaking and listening, and reading and writing in the ESL classroom. Writing lesson plans, selecting and adapting instructional resources and technology, developing classroom management skills, and integrating cultural awareness in classroom activities provide the basis for this class. Observation of ESL sites provides an opportunity for TESL students to observe various working models. Three credits.

## **TEL 225 SECOND LANGUAGE ACQUISITION**

Examine the intricate web of variables that interact in the second language learning process. The emphasis in the course will be on examining each of these variables and then attempting to understand how they work together to foster or inhibit successful second language learning and acquisition. Three credits.

## **THE: THEATRE**

### **THE 105 INTRODUCTION TO THEATRE ARTS**

Includes discussions, workshops, and lectures designed to discover, analyze and evaluate all aspects of the theatre experience: scripts, acting, directing, staging, history, criticism and theory. This course is a state guaranteed transfer course GT-AH1. Three credits.

### **THE 111 ACTING I**

Covers basic acting techniques and approaches including scene study, improvisation, and script analysis. It includes practical application through classroom performance. Three credits.

### **THE 211 DEVELOPMENT OF THEATRE I**

Surveys the history and evolution of drama from Ancient Greece to the Renaissance, emphasizing all aspects of the art from period values to analysis of dramatic literature and performance. This course is a state guaranteed transfer course GT-AH1. Three credits.

### **THE 212 DEVELOPMENT OF THEATRE II**

Surveys the history and evolution of drama from the Renaissance to the present, emphasizing all aspects of the art from period values to the analysis of dramatic literature and performance. This course is a state guaranteed transfer course GT-AH1. Three credits.

### **THE 275 SPECIAL TOPICS**

Explores current topics, issues and activities related to one or more aspects of the named discipline. One to three credits.

### **THE 285 INDEPENDENT STUDY**

Emphasizes structured and guided, individualized study that is organized and tailored around the interests and needs of the individual student. One to three credits.

## **UPH: UPHOLSTERY**

### **UPH 100 BASIC UPHOLSTERY TECHNIQUES**

Covers the upholstery industry: safety, familiarization with tools and materials, sewing, tacking, layout and pattern work. Three credits.

### **UPH 101 AUTO UPHOLSTERY I**

Covers auto seat upholstery, including removal and replacement, teardown, correct use of materials, cutting and stretching. Prerequisite(s): UPH 100 or permission of Instructor. Three credits.

### **UPH 102 AUTO UPHOLSTERY II**

Continues UPH 101, emphasizing skill development. Carpet, trim, convertible tops, tonneau covers and convertible boots are course components. Prerequisite(s): UPH 101 or permission of Instructor. Three credits.

### **UPH 103 AUTO UPHOLSTERY III**

Introduces repair and/or replacement of armrests, carpet, wind lace, door panels, headliner, convertible tops, tonneau covers and convertible boots. Prerequisite(s): UPH 102 or permission of Instructor. Three credits.

### **UPH 275 SPECIAL TOPICS**

Provides students with vehicle to pursue in depth exploration of special topics of interest.

### **UPH 285 INDEPENDENT STUDY**

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

## **WEL: WELDING TECHNOLOGY**

### **WEL 100 SAFETY FOR WELDERS**

Covers the hazards of welding on health and safety, locating essential safety information from a code or other standard, and identifying and applying shop safety procedures. One credit.

### **WEL 101 ALLIED CUTTING PROCESSES**

Covers setting up equipment and performing cutting and gouging operations utilizing the oxyacetylene, air carbon arc, exothermic, and plasma arc cutting processes. This course will also provide an introduction to blueprint reading. Prerequisite(s): WEL 100. Four credits.

### **WEL 102 OXYACETYLENE JOINING PROCESSES**

Introduces safety inspections, minor repairs, operating parameters, oxyacetylene welding equipment, and oxyacetylene welding, brazing, and soldering operations. Prerequisite(s): WEL 100 and WEL 101. Four credits.

### **WEL 103 BASIC SHIELDED METAL ARC I**

Covers safety inspections, minor repairs, adjusting operating parameters, and operating SMAW equipment utilizing E-6010 electrodes. Prerequisite(s): WEL 100 and WEL 102. Four credits.

### **WEL 110 ADVANCED SHIELDED METAL ARC I**

Covers safety inspections, minor repairs, operating parameters, and operation of SMAW equipment on groove and fillet welds utilizing E-6010 and E-7018 electrodes. Layout procedures will be practiced during this course. Prerequisite(s): WEL 100 and WEL 103. Four credits.

### **WEL 175, 176, 177, 275, 276, 277 SPECIAL TOPICS**

Provides students with a vehicle to pursue in-depth exploration of special topics of interest. Prerequisite(s): WEL 100. One to six credits.

### **WEL 201 GAS METAL ARC WELDING I**

Covers safety inspections, minor repairs, operating parameters, and operation of GMAW equipment on plain carbon steel utilizing short circuit transfer. Prerequisite(s): WEL 100 and WEL 110. Four credits.

### **WEL 202 GAS METAL ARC WELDING II**

Covers safety inspections, minor repairs, operating parameters, operation of GMAW equipment utilizing a variety of electrodes and base metals, and fundamental principles of welding metallurgy. Prerequisite(s): WEL 100 and WEL 201. Four credits.

### **WEL 203 FLUX CORED ARC WELDING I**

Covers safety inspections, minor repairs, operating parameters, operation of FCAW equipment utilizing self shielded wire, and principles of joint design, preparation, and material selection to welding operations. Prerequisite(s): WEL 100 and WEL 202. Four credits.

### **WEL 204 FLUX CORED ARC WELDING II**

Covers safety inspections, minor repairs, operating parameters, operation of FCAW equipment utilizing gas shielded wire, and applying fundamentals of welding applications and cost estimating to welding, fabrication, and inspection. Prerequisite(s): WEL 100 and WEL 203. Four credits.

### **WEL 224 ADVANCED GAS TUNGSTEN ARC WELDING**

Covers safety inspections, minor repairs, operating parameters, operation of GTAW equipment on plain carbon steel, stainless steel, and aluminum, locating essential welding information from codes or other standards, and performing basic weld inspections. Prerequisite(s): WEL 100 and WEL 204. Four credits.

### **WEL 230 PIPE WELDING I**

Covers safety inspections, minor repairs, operating parameters, and operation of SMAW equipment in a variety of positions on plain carbon steel pipe joints. Also covers evaluating and solving complex welding and fabrication problems and administering hands on training and supervision to other students during assigned fabrication and welding operations. Prerequisite(s): WEL 100 and WEL 224. Four credits.

### **WEL 231 PIPE WELDING II**

Covers safety inspections, minor repairs, operating parameters, and operation of SMAW and GTAW equipment in a variety of positions on plain carbon steel pipe joints. Also covers evaluating and solving complex welding and fabrication problems and administering hands on training and supervision to other students during assigned fabrication and welding operations. Prerequisite(s): WEL 100 and WEL 230. Four credits.

## **WST: WOMEN'S STUDIES**

### **WST 200 INTRODUCTION TO WOMEN'S STUDIES**

Examines the nature and function of women in society from an interdisciplinary perspective, focusing on the similarity and diversity of women's experience over time and across cultures. The course will examine topics such as sex role, socialization, political, and philosophical perspectives on women's issues, and women's accomplishments in history, art, literature, science, health issues and the family. Students will gain an awareness of the limitations of traditional scholarship on women, and gain a means of practical application of the new scholarship on women's roles and nature. This course is a state guaranteed transfer course GT-SS3. Three credits.